prop_nun	pi_fname	pi_lname	Title	Abstract
141002	JUSTIN	FINKE	COMPTON SCATTERING OF EXTERNAL RADIATION FIELDS BY ELECTRONS IN REALISTIC RELATIVISTIC BLAZAR JETS	Compton scattering of external radiation fields such as the broad line region and dust torus by nonthermal electrons in a relativistic jet is a well-accepted model for gamma-rays from blazars. However, two effects are routinely ignored in time-dependent models: the change in the external radiation field as the emitting region moves and light travel time effects of photons from the emitting region. We propose to rectify these oversights by creating a time-dependent external Compton model that realistically takes into account these effects.
141003	KEVIN	HURLEY	MAINTAINING THE FERMI GBM IN THE INTERPLANETARY NETWORK	It is proposed to maintain the Fermi GBM in the 3rd Interplanetary Network of Gamma-Ray Burst (GRB) detectors, to 1) facilitate multimessenger GRB studies, 2) reduce the sizes of ~75 GBM error circles by several orders of magnitude, 3) enable the identification of GRB counterparts from the radio to very high energy gamma-rays, 4) reduce the uncertainties in associating ~4 LAT detections of high energy photons with GBM bursts, 5) discover and monitor sources of galactic and extragalactic magnetar bursts, and 6) search for that one rare, amazing, unexpected event, such as GRB 170817A or 200415A.
141008	CHANGAM MEEN	RAJAGOPAL	BL LACERTAE OBJECTS AT HIGH REDSHIFTS	We will perform 10-filter photometry, using Swift and SARA-RM, with the goal of measuring photometric redshifts for the Fermi BL Lacs (with unknown z) visible from La Palma, Spain. SARA+UVOT coupling allows us to determine accurate photo-z in the 1.3--8.0 range. We will target 50 objects and expect to find ~5 of them at z>1.3 thus increasing the current sample size of 29 such sources by 20%. While undoubtedly rare, these detections represent a major achievement as high-z BL Lacs probe the UV-optical radiation field and allow us to understand the evolution of the blazar family. This program will provide high quality nIR-to-UV data that will be released to the general public.

141009	HAOCHENG	ZHANG	RADIATION AND POLARIZATION SIGNATURES FROM 3D RELATIVISTIC TURBULENT MAGNETIC RECONNECTION IN BLAZARS	Fermi has detected strong blazar flares within very short time, indicating extreme particle acceleration. Relativistic magnetic reconnection is a primary candidate mechanism for fast blazar flares. Recent radiation transfer simulations based on 2D particle-in-cell results have shown rich radiation signatures consistent with observations. However, 3D effects, especially instabilities and turbulence, are artificially suppressed in these studies, which can have a strong impact on radiation signatures. We propose to self-consistently study 3D effects of relativistic magnetic reconnection on multi-wavelength blazar emission signatures via combined 3D PIC and polarized radiation transfer.
141014	SVETLANA	JORSTAD	OPTICAL POLARIZATION PROPERTIES OF GAMMA-RAY BLAZARS	We propose to monitor optical linear polarization and flux (BVRI bands) of 51 gamma-ray AGN 8-10 nights per month at a ~2m mirror telescope to build a database of polarization parameter behavior during gamma-ray quiescent and flaring states. We will construct gamma-ray and optical light curves and polarization curves to search for correlations between gamma-ray and optical flux and polarization variations, analyze spectral index evolution, and study magnetic field properties in optical emission regions at different gamma-ray activity states. We will include new sources in the sample according to Fermi, VHE, and neutrino alerts. This information will lead to important insights into the particle acceleration mechanisms and locations of gamma-ray emission sites in AGN.
141019	JULIA	DENEVA	TIMING NEW PULSARS FOUND IN JERK SEARCHES OF FERMI UNASSOCIATED SOURCES	The discovery of millisecond pulsars (MSPs) in radio searches of Fermi-LAT unidentified sources continues. In order to fulfill the promise of these discoveries, we must obtain phase-coherent rotational ephemerides over at least one year. These are then used to fold sparse photons and obtain gamma-ray pulsations, the starting point for subsequent studies. We plan to use the GBT telescope to obtain timing solutions for 10 MSPs we have discovered in unassociated LAT sources. Our work will determine if the new MSPs are associated with the Fermi sources, contribute to the Third Fermi Pulsar Catalog (3PC), magnetospheric geometry studies and multi-wavelength pulsar emission models, and evaluating the MSPs for inclusion in pulsar timing arrays for the detection of gravitational waves.

141022	SAMUEL	SWIHART	REVEALING NEW FERMI MILLISECOND PULSAR BINARIES WITH OPTICAL SPECTROSCOPY	Although recent follow-up of unassociated Fermi sources has been a boon for the discovery of new millisecond pulsars, it is clear that the census is far from complete, especially in the Northern sky. Here we request time on Gemini-N in order to perform a targeted spectroscopic survey of the likely optical counterparts to as-yet undiscovered redback millisecond pulsar binaries. This program presents a unique opportunity to add value to the Fermi mission by discovering and characterizing up to a dozen new Galactic gamma-ray emitting neutron star binaries through ground-based correlative observations, resulting in up to a 50% increase in the known population of redback millisecond pulsar binaries.
141024	XIN	LIU	NIR SPECTROSCOPY OF HIGH-REDSHIFT FERMI BLAZARS: ARE JETTED BLACK HOLES OVERLY MASSIVE?	Near-infrared (NIR) spectroscopy of high-redshift blazars provides well-calibrated virial black hole masses, central for understanding early blazar growth and super-Eddington accretion. NIR spectroscopy is therefore an essential joint observation for Fermi science. We propose NOAO Gemini/GNIRS spectroscopy for nine Fermi-detected high-redshift blazars with existing multi-wavelength data that maximally sample the spectral energy distributions (SEDs). We will obtain robust virial masses and Eddington ratios, compare with independent measures from SED modeling, and test dependence of any mass discrepancy on the jet power. The results will establish if high-redshift blazars are powered by overly massive black holes, which may challenge conventional Eddington-limited models for seed formation.
141025	MICHAEL	BRIGGS	AN ENHANCED AND EXPANDED FERMI GBM TGF CATALOG	The first GBM TGF catalog provided data on 4,144 TGFs, including lighting data from the World Wide Lightning Location Network (WWLLN). The second GBM TGF catalog will expand on the first by analyzing an additional 5.7 years of GBM CTTE data. The analysis will be enhanced with an optimized search for fainter TGFs and identification of multi-pulse TGFs. These improvements will also be applied to the 3.7 years of CTTE data that were analyzed for the first catalog. The distributions of pulse durations and intervals can be used to test models for the origin of TGFs. Cross-correlating the TGFs with WWLLN will associate many of the TGFs with specific lightning sferics, providing accurate geolocations. The greatly expanded sample size will support numerous investigations

141033	ROSS	SILVER	TOWARDS A FULL MAPPING OF THE>10 GEV EXTRAGALACTIC SKY: ASPECTROSCOPIC FOLLOW-UP CAMPAIGN OF UNIDENTIFIED 3FHL SOURCES	The 3FHL catalog, the largest catalog of sources detected at >10 GeV, is the deepest look at the very high energy sky and will remain unrivaled for years to come. However, at the present day the catalog spectroscopic completeness is rather low (<50% of ~1500 sources), thus limiting its scientific applications. Following the Fermi-NOAO Cooperative Arrangement guidelines, we propose for Gemini (N and S) spectroscopic follow-ups of 50 new, unclassified 3FHL sources with a bright Swift-XRT counterpart, which are likely to be blazars. Characterizing a significant part (~25%) of the population of these new, unidentified 3FHL sources, this legacy project will both improve our knowledge of the blazar population and prepare the groundwork for future facilities, such as CTA.
141036	ROBIN	CORBET	A NEW ECLIPSING REDBACK MS PULSAR (AND TWO CANDIDATE HMGBS)	From a search for gamma-ray emitting binaries from periodic modulation in LAT light curves, we recently identified a gamma-ray eclipsing system that is likely a redback ms pulsar. This type of system is rare and the eclipses are key probes of system geometry and the emission regions. We propose to complete an analysis of this source, including multi-wavelength data which can provide unique insights into such systems through its eclipses. An additional secondary goal of this proposal is to investigate two candidate high-mass gamma-ray binaries.
141043	FRANCESCO	MASSARO	AN OPTICAL VIEW OF THE UNKNOWN GAMMA-RAY SKY	One of the main scientific objectives of the Fermi-NOAO Cooperative Arrangement is: studying candidate counterparts, including redshift determination of previously unknown BL Lacs and high-redshift blazars. This proposal is for carrying out an optical spectroscopic campaign aiming at revealing the nature of more than 200 blazar candidates of uncertain type (BCUs) having IR colors similar to known Fermi blazars and listed in the 4FGL. The legacy value of the current project is crucial to prepare future releases of Fermi source catalogs and to improve our knowledge on the blazar population.

141047	JAMIE	KENNEA	IMPROVING THE LOCALIZATION OF GBM GRBS WITH SWIFT/BAT EVENT DATA	We seek to improve the localization of Fermi/GBM detected GRBs. Utilizing GBM alerts, Swift is commanded to dump BAT event data, usually discarded on board, to the ground. These data will be analyzed for evidence of a co-detection of the GRB by BAT. If detected, then we will utilize BAT data either to localize the GRB to $\sim$arc-minute resolution (if within BAT FOV), or if outside the BAT coded FOV, combine information from GBM and BAT to significantly reduce the GBM error region. We estimate obtaining arc-minute localizations for 15 GBM GRBs per year, in addition to those co-detected by BAT, and many more will allow us to significantly reduce the GBM error region. This is vitally important for future multi-messenger detections of NS mergers by GBM and the GW detector network.
141050	MARCO	AJELLO	GAMMA RAYS FROM AGN-DRIVEN GALACTIC OUTFLOWS	Accreting super-massive black holes at the centers of galaxies can launch wide angle winds, which are powerful enough to displace the gas from the host galaxy. In their interaction with the interstellar medium, these winds should generate a strong shock similar to those observed in supernova remnants. In this scenario, gamma-ray emission is expected as a result of particle acceleration at the shock front and interaction of those particles with the interstellar medium. This program will use galaxies exhibiting outflows at different scales to establish and characterize the emission from AGN-driven winds. This has implications for the generation of the gamma-ray background, as well as particle acceleration in a galaxy.
141058	EUGENIO	BOTTACINI	HIGH-ENERGY UNKNOWN TRANSIENTS: THE FERMI-INTEGRAL SYNERGISTIC VIEW	Galactic unknown gamma-ray transient sources are very rare celestial objects which makes it difficult to study their nature. Despite spending over more than ten years monitoring the entire gamma-ray sky, they represent an untouched discovery ground for the Fermi mission. We propose coordinated Fermi - INTEGRAL observations to follow-up an unknown high-energy gamma-ray transient of Fermi-LAT to study its nature.

141060	MATTHEW	BARING	THE DYNAMIC INTERPLAY BETWEEN SHOCK ACCELERATION AND RADIATION IN FERMI BLAZAR FLARES	Blazar science has been profoundly refined in the Fermi-LAT era using numerous multi-wavelength (MW) campaigns. Recently, simulation results of shock acceleration have been combined with time-dependent MW modeling of 3C 279 and other blazars to provide important diagnostics on their jet plasmas. This program will go beyond this by self-consistently including radiative cooling and introducing MHD turbulence into an acceleration simulation explicitly, directly coupling the field fluctuations to flare spectral and temporal evolution. This will elucidate the association of flares with shock acceleration activity using data from Compton-dominated Fermi-LAT blazars. The program will refine determinations of the plasma density, turbulence character and particle acceleration in their jets.
141066	SAMER	ALNUSSIRAT	SIMULTANEOUS OBSERVATIONS OF TGFS AND LIGHTNING FROM GROUND LEVEL TO GEOSTATIONARY ORBIT	Terrestrial Gamma-ray Flashes (TGFs) are pulses of energetic photons that are intense and short in duration. GBM has detected more than 5000 TGF events since 2008 until now. Despite this large number of detected events, fundamental questions about the TGF production are still unanswered. In this effort, we propose to answer questions that pertain to the TGF production mechanisms and source characteristics. By utilizing simultaneous gamma-ray, optical, and radio observations from four different experiments (GBM on Fermi, GLM and ABI on GOES-16, and the ground-based GLD360), we propose to study the TGF production mechanisms and characteristics of thunderclouds and lightning activity that produce TGFs to differentiate them from those that do not produce TGFs.
141068	HAOCHENG	ZHANG	MULTI-PHYSICS SIMULATIONS OF BLAZAR HADRONIC SIGNATURES	The recent detection of very high energy neutrino with TXS 0506+056 gamma-ray flare strongly indicates a hadronic origin of blazar emission. It is imperative for Fermi to not only study the potential physical link between gamma-ray flares and neutrino events, but also diagnose the underlying physical properties that lead to most promising future neutrino blazar detection. We propose to use the multi-physics framework, combining MHD, Fokker-Planck particle evolution, and radiation transfer, to consistently study spectral and temporal behaviors of blazar radiation and neutrino signatures. Our proposal is unique in that it not only has minimal parameter degeneracy with first-principle-integrated simulation, but also surveys the parameter space for most promising neutrino-emitting blazars.

141069	CHRYSSA	KOUVELIOTOU	MAGNETAR OBSERVATIONS WITH THE FERMI/GAMMA RAY BURST MONITOR	Since October 2020, two new magnetars were discovered, a known source became extremely active emitting a forest of bursts (one of which was securely associated with a Fast Radio Burst), a Giant Flare was linked with an Extragalactic magnetar, and an old radio magnetar became active again after ~15 years in quiescence. The magnetar field is currently very active. We propose here a Regular Program to analyze the GBM magnetar data combined with X-ray missions (NuSTAR, Swift, NICER) and radio observations (GBT). We plan to produce magnetar burst catalogs (with triggered and untriggered events), create a public web page of magnetar bursts, perform time-resolved analysis of the forest of bursts, including comparisons across the magnetar population, and possibly detect another Giant Flare.
141085	PETER	JENKE	ENHANCEMENTS AND OPERATION OF THE GBM ACCRETING PULSAR PROGRAM	Since 2008, The GBM Accreting Pulsar Program (GAPP) has continuously monitored the full sky for accreting pulsars with spin frequencies in the 1 mHz to 2 Hz range (to 16 Hz starting in 2013). GAPP conducts daily blind searches to discover previously unknown or quiescent pulsars as well as source specific analyses to track the evolving pulse frequencies of all detected pulsars resulting in time histories of the pulse profile, pulsed flux, and frequency of detected sources. We propose, for Cycle 14, to monitor a catalog of accreting pulsars with GBM. Develop enhancements to the GAPP that improve usability and functionality. We will update orbital parameters for existing and newly detected sources and partner with the science communities of X-ray/gamma ray observatories.
141087	ALEX	MCDANIEL	GAMMA-RAY EMMISSION FROM GALACTIC WOLF-RAYET STARS	Wolf-Rayet (WR) stars are massive evolved stars and possess strong stellar winds. WRs in single and binary systems are also predicted to be potential emitters of gamma rays. The high-energy emission from WR stars is usually attributed to shocks associated with their winds. The shocked winds accelerate cosmic rays producing X rays and gamma rays through inverse Compton processes, as well as producing neutral pions that quickly decay into gamma-ray photons. In this program we will conduct the first comprehensive analysis of gamma-ray emission from the entire population of Galactic WR stars, including both isolated and binary systems. Since the gamma-ray emission from WRs is in most cases expected to be below the detection threshold of the Fermi-LAT, we employ a stacking technique.

141088	MARKOS	GEORGANOPOULO	OLD QUESTIONS, NEW ANSWERS: WHAT IS THE GAMMA-RAY EMISSION MECHANISM OF BLAZARS? AND WHAT DRIVES THE BLAZAR SEQUENCE?	In a seminal paper, Sikora, Begelman, and Rees (1994) argued that the gamma-ray emission from blazars is due to external Compton scattering of nuclear broad-line photons. This model quickly became a paradigm in the field, though a long-standing issue is its inability to explain the anomalously high amplitude of gamma-ray flares compared to lower energies. Here we propose to show that moving the blazar emission location out beyond the parsec-scale external photon fields and modeling it as synchrotron-self Compton of first and second order solves many observational issues, including the high-amplitude variability. In this framework, we will also explore the idea that the blazar sequence can be explained by varying a single parameter, the relativistic electron power injected in the jet.
141089	AMANPREET	KAUR	RADIO FOLLOW UP OF THE LIKELY X-RAY PULSAR POSITIONS OF THE FERMI UNASSOCIATED SOURCES	The 4th catalog of gamma ray sources discovered by Fermi contains ~1/3rd unassociated sources. A challenge to identifying such sources are large positional uncertainties associated with them (~ arcmins). Observations with Swift-XRT help localize potential X-ray counterpart positions to a few arcseconds. At present, XRT data for 1094 are publicly available out of which 236 X-ray sources were found within the 95% Fermi uncertainty regions. We compared various gamma-ray and X-ray properties of known pulsars with these unassociated sources. By implementing the random forest classifier, we identified 5 highly likely pulsar candidates from this sample. We seek confirmation of these through a search for radio pulsations using a total of 13 hours of GBT time utilizing the precise X-ray positions.
141091	KONSTANTINOS	KALAPOTHARAKOS	GLOBAL SELF-CONSISTENT KINETIC PIC SIMULATIONS: THE FERMI PULSAR FUNDAMENTAL PLANE	Recent studies have shown that the entire Fermi pulsar population of young and millisecond pulsars lie on a fundamental plane (FP) that relates pulsar observable parameters that describe the pulsed gamma-ray radiation to parameters probing the emission physics. The goal of the proposed study is the development of a series of eventually self-consistent global particle-in-cell simulations with a focus on the constraints and dependencies implied by the Fermi broad-spectrum phenomenology (i.e., FP and gamma-ray light-curve patterns) of the entire pulsar sequence. Our models will provide a robust interpretation of the Fermi phenomenology revealing the foundations of the observed pulsar gamma-ray emission.

141093	CORINNE	FLETCHER	OPTIMIZING THE FERMI-GBM SUBTHRESHOLD TARGETED SEARCH FOR MAGNETARS AND COINCIDENT GAMMA-RAY EVENTS TO FRBS	Magnetars are amongst the most extreme astrophysical sources in the universe. With their high densities and magnetic field strengths, they are an ideal test case for fundamental physical processes. Furthermore, they have recently been found to be the progenitors for some Fast Radio Bursts (FRBs). With only 29 known magnetars, the mechanisms for their gamma-ray emission is not well understood. The Fermi Gamma-ray Burst Monitor (GBM) is an ideal instrument in detecting outbursts of gamma rays from magnetars. We propose to optimize the GBM Targeted Search to search for subthreshold magnetar outbursts and coincident gamma-ray emission to FRBs. In order to do this we will study the temporal and spectral properties of known magnetars to develop and implement new parameters to the search.
141099	KE	FANG	PROBING THE CANDIDATE PEVATRON SUPERNOVA REMNANT G106.3+2.7 WITH FERMI-LAT	Supernova remnants (SNR) have long been suggested to be the dominant sources of Galactic cosmic rays up to PeV energies. However, few SNRs have been observed with clear hadronic gamma-ray emission signatures. The gap between theory and observation makes SNR G106.3+2.7 a peculiar source, from which very-high-energy gamma-ray emission has been observed with a hard spectrum extending to 100 TeV. We propose to search for the 0.1-300 GeV emission by the supernova remnant in the Fermi-LAT data. We will also jointly analyze the Fermi-LAT, VERITAS, and HAWC data to probe the gamma-ray production mechanism and the magnetic field strength of SNR G106.3+2.7. This project will advance the understanding of particle acceleration and interaction in SNRs and their role as PeV cosmic-ray accelerators.
141102	PABLO	SAZ PARKINSON	UNCOVERING A NEW POPULATION OF SOFT GAMMA-RAY PULSARS WITH FERMI-LAT	Fermi has detected over 250 gamma-ray pulsars, but only a handful in the ``soft'' gamma-ray (emission peaking below 1 GeV) category. These tend to be single-pulsed, young, and extremely energetic, the archetypal example being PSR B1509--58. We propose a program of dedicated searches for soft gamma-ray pulsars (radio-loud and radio-quiet) with Fermi. We will use LAT data below 100 MeV in conjunction with X-ray observations (Chandra, XMM, Swift, and NuSTAR) to increase the soft gamma-ray pulsar population. Our broadband coverage of these pulsars will help constrain models of high-energy pulsar emission over a range of parameters (e.g. viewing geometries and spin-down parameters).

141104	LEA	MARCOTULLI	BRIDGING THE GAP: A SENSITIVE CATALOG OF MEV SOURCES	The under-explored MeV band has an extremely rich scientific potential. Awaiting an all-sky MeV mission, it is now the prime time to take full advantage of the capabilities of the Fermi Large Area Telescope to explore this regime. With more than 12 years of the best available dataset (Pass8), in this proposal we plan to develop an all-sky analysis to build a sensitive catalog of sources from 20 to 200 MeV. This work will allow us to cover the SED peak of most gamma-ray sources, fundamental to understand their nature, and possibly discover a whole new population of MeV ones. Importantly, this program will start bridging the gap between the MeV and GeV energy bands, strongly supporting the scientific case for a future all-sky MeV mission and enhancing the legacy of the Fermi mission.
141106	DANIEL	KOCEVSKI	THE FERMI LAT LIGHT CURVE REPOSITORY	We propose to further develop the Fermi LAT light curve repository, consisting of a public library of light curves for variable Fermi LAT sources on a variety of timescales. The Fermi LAT light curve repository aims to provide publication quality light curves on timescales of days, weeks, and months for over 1500 sources deemed variable in the 4FGL-DR2 catalog. The repository will consist of light curves generated through a full likelihood analysis of the source and surrounding region, providing calibrated flux and photon index measurements for each time bin. Hosted at NASA s HEASARC, the library will provide users with on-demand access to this light curve data, serving as a resource to the time-domain and multi-messenger communities.
141107	KONSTANTINOS	KALAPOTHARAKOS	CONSTRAINTS ON PULSAR MASS, RADIUS, AND MAGNETIC FIELD STRUCTURE VIA A COMBINED ANALYSIS OF NICER AND FERMI LIGHT CURVES	The recent NICER results strongly imply the existence of multipolar magnetic fields through modeling of the thermal X-ray waveforms of the millisecond pulsar PSR J0030+0451, which constrain the corresponding stellar mass and radius. Recent studies showed that different multipolar field structures could reproduce the NICER X-ray light curve while considering the corresponding Fermi gamma-ray light curve could lift these field degeneracies. We propose to significantly upgrade the B-field exploration approach by a simultaneous analysis of the stellar mass and radius, its field structure, and the observed gamma-ray light curve. This approach will lead to the combined determination of the pulsar stellar mass and radius and magnetic field structure at an unprecedented consistency level.

141109	ERIC	CHARLES	CONTINUED SUPPORT OF FERMI-LAT SCIENCE WITH PUBLICLY AVAILABLE SOFTWARE	This proposal requests funding to perform work to support publicly available software tools to analyze Fermi-LAT data. The proposed work will increase the scientific output of Fermi-LAT: 1) by supporting continued development and maintenance of both the fermitools and fermipy software packages; 2) by making it easier for new people to contribute to the fermipy software package. These developments will not be possible without the funding requested in this proposal.
141110	ALEXANDER	TCHEKHOVSKOY	SIMULATING DYNAMICAL EJECTA EFFECTS ON HIGH ENERGY EMISSION FROM NEUTRON STAR AND BLACK HOLE COLLISIONS	The multimessenger detection of short gamma-ray burst (sGRB), GRB 170817A, by the Fermi and LIGO/Virgo observatories has upended the high-energy astrophysics. Yet, no first-principles models exist that connect the gamma-ray emission sites to the pre-merger conditions, limiting the ability to interpret Fermi observations. We will carry out the first such models, focusing on revealing the merger environment. Namely, we will for the first time connect how opening angles, isotropic equivalent luminosities, engine variability, and durations of sGRB lightcurves, depend on the properties of the poorly understood dynamical ejecta produced in the merger. Such models are essential for inferring the physical conditions prior and shortly after the merger from future observations of binary mergers.
141111	ALEXANDER	CHEN	FIRST-PRINCIPLES STUDY OF γ-RAY EMISSION NEAR THE EVENT HORIZON OF M87	M87 has been established as a gamma-ray source from the GeV to TeV energy bands. The short variability timescale and multi-wavelength correlations have suggested that the gamma-rays may come from near the event horizon of the central supermassive black hole. We propose a comprehensive study to determine the origins of the high energy gamma-rays in M87. We will use state-of-art radiation GRMHD simulations to obtain a detailed picture of the photon distribution near the horizon, and measure its dependence on accretion rate, magnetization, and electron temperature. Then, we will use this information in a self-consistent GR PIC simulation to study the mechanism of particle acceleration and obtain a full gamma-ray spectrum from GeV to TeV that can be directly compared to observational data from
141116	ELEONORA	TROJA	RAPID FOLLOW-UP OF FERMI LAT GAMMA-RAY BURSTS	GRBs with high-energy emission opened up a new realm of phenomena, from the physics of GRBs and their central engines to theories of quantum gravity, and constraints on the extra-galactic background light. Here we propose a follow-up program of LAT detected GRBs aimed at providing rapid and accurate localizations, photometric redshifts, and multi-color afterglow observations.

141120	MICHELA	NEGRO	FERMI AND THE SEARCH FOR LOST MAGNETAR GIANT FLARES (Large Project)	Around 11.4 million years ago a magnetar in NGC253 released a huge amount of energy in a giant flare. On April 15th 2020 some of the emitted photons were detected by a number of gamma-ray telescopes, including the Gamma-ray Burst Monitor (GBM) and Large Area Telescope (LAT) on Fermi. The burst GRB200415A provided new insights of magnetar giant flare (MGF) phenomenology. While only 7 MGFs are known, their measured intrinsic rates and current instrument capabilities suggest more events should exist in archival Fermi data that remain unidentified. We propose to carry out a combined GBM-LAT search over 14 years of Fermi data to identify additional MGFs, potentially doubling the current number of identified MGFs which will greatly advance the current knowledge of these peculiar transients.