

APR16-2016-030095

Abstract for an Invited Paper  
for the APR16 Meeting of  
the American Physical Society

### **New Opportunities and Challenges in Gamma Ray Astrophysics**

ROGER BLANDFORD, KIPAC, Stanford University

Recent, exciting discoveries by LIGO, IceCube and the Parkes Radio Telescope together with an increasingly sophisticated program of multi-wavelength monitoring of the established cosmic transients, present fresh opportunities and challenges to gamma ray observatories. Their large etendue and microsecond timing make them key steps along the path to source identification and modeling. Highly variable, relativistic sources point to the need for new mechanisms through which electromagnetic energy can be rapidly converted into gamma rays, a process called, generically, magnetoluminescence.