Abstract for an Invited Paper for the APR09 Meeting of The American Physical Society

Probing Black Hole Mergers with LISA

ALBERTO VECCHIO, University of Birmingham

The Laser Interferometer Space Antenna (LISA) is a gravitational wave observatory in the frequency window 0.1 mHz - 0.1 Hz, capable of observing black hole mergers throughout the Universe. I will discuss the potential of LISA high-redshift surveys for novel studies of black hole demographics, formation of cosmic structures, cosmology and detailed investigations of the behaviour of gravity in the strong non-linear regime.