Trapping of bodies by gravitational waves endowed with angular momentum

Iwo Białynicki-Birula¹

¹Center for Theoretical Physics, Polish Academy of Sciences Aleja Lotnik ów 32/46, 02-668

Warsaw, Poland

E-mail: birula@cft.edu.pl

It has been shown some time ago that electromagnetic waves endowed with angular momentum trap charged particles near the beam center. In this talk I will show that the trapping also occurs for gravitational wave endowed with angular momentum. Such waves are not uncommon. In particular, they are emitted by inspiralling black holes which must get rid of their orbital angular momentum.