

I am going to talk about the polarization characteristics of the electromagnetic (EM) counterpart of the gravitational wave (GW) created by coalescence of the binary sources. Recently, we explored the impact of the photon-graviton interaction on the polarization evolution of X-ray emission of Gamma Ray Bursts (GRBs). I will show that significant circular polarization can be generated due to the gravitational wave from the binary merger. I will also discuss about the possibility of the detection and using our predicted signal as an indirect probe for GW events. This talk is based on very recent paper JCAP11(2018)042.