# Triggering of Magnetic Reconnection by Drift-Kink Tearing Mode in a Relativistic Current Sheet of Pair Plasmas

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The linear and non-linear evolution of a relativistic current sheet of elecrton-positron plasmas is investigated by three-dimensional particle-in-cell simulations. It is obtained that an ideal 3D Harris current sheet is unstable to the relativistic drift kink instability (RDKI). However, when we introduce the finite amplitude of a current-aligned magnetic field (the so-called ``guide field''), RDKI is stabilized by the magnetic tension force and that it separates into two oblique-propagating modes. We found that both two unstable modes deform the current sheet, resulting in magnetic reconnection at a crossover thinning point. Three-dimensional stability of a current sheet and the triggering mechanism of reconnection by the oblique modes are presented.