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## Decay of Gamma Ray in Presence of Strong Magnetic Field

### Abstract content

In this paper we have considered the decay of gamma ray having very high energy in presence of a strong magnetic field. It is assumed that a high energetic photon may be splitted into electron-positron pair. To calculate such decay process we have considered the possible Feynman diagrams and calculated to obtain an analytical expression of the decay rate. We have computed the decay rate in different energy range and briefly discussed the significance of the result obtained. The possibility of the weak decay, i.e., the decay of gamma ray into neutrino-antineutrino pair has also been discussed. In both the cases the decay of gamma ray is possible only when the magnetic field intensity is very high. In the later phases of stellar evolution, particularly in a strongly magnetized neutron star or magnetar such phenomena may be observed.

**If this papers is presented for a collaboration, please specify the collaboration**

### Summary

### Reference

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