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## **Particle acceleration in extragalactic jets**

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The ultrafast variability of TeV emission associated with extragalactic jets constrains particle acceleration scenarios. Recent observations of minute-scale variability in IC 310 indicate acceleration at zero pitch angle, thereby avoiding synchrotron emission that would otherwise quench the gamma-ray emission due to photon-photon pair production. In a two-stage scenario for particle acceleration in extragalactic jets, the injection of ultra-relativistic particles along the jet axis alleviates the efficiency problem for relativistic shocks.