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E.B.; Fulk, M.M. Publication Date: Mon Oct 30 00:00:00 EST 1972 Isotope separation of laser excited molecules by use of ...The only general method for separating isotopes is the calutron, which was invented during the Second World War to enrich uranium for the atomic bomb. A calutron is essentially a cyclotron that accelerates ions to extremely high energies while deflecting them using a magnetic field.

Gas flow conditions allow multiple laser radiation interactions with atoms to be performed with high efficiency in spite of small cross-section transition and low laser power.

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title = "High power laser production of short-lived isotopes for positron emission tomography", abstract = "Positron emission tomography (PET) is a powerful diagnostic/imaging technique requiring the production of the short-lived positron emitting isotopes ¹¹C, ¹³N, ¹⁵O and ¹⁸F by proton irradiation of natural/enriched targets using cyclotrons.

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