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 EP 2680271 A1 · XP 012199618 · US 20080008286 A1 · XP 029387484 ·
 WO 2016093324 A1 · DE 102015114749 A1 · Holmlid L (2017) Mesons from Laser-Induced Processes in Ultra-Dense Hydrogen H(0). PLOS ONE 12(1): e0169895. <https://doi.org/10.1371/journal.pone.0169895>
- (56) Cited documents:
- (57) Abstract:

An apparatus (10) for generating muons, comprising: a hydrogen accumulator (13) including an inlet (35); an outlet (37) separated from the inlet by a flow path; a hydrogen transfer catalyst (31) arranged along the flow path between the inlet and the outlet; and an accumulating member (19) for receiving hydrogen in ultra-dense state from the outlet at a receiving portion (39) of the accumulating member and accumulating the hydrogen in the ultra-dense state at an accumulation portion (41) of the accumulating member. The accumulating member (19) has a downward sloping surface (27) from the receiving portion (39) to the accumulation portion (41). The apparatus further includes a field source (15), such as a laser, arranged to provide, to the accumulation portion (41) of the accumulating member (19), a field adapted to stimulate emission of negative muons from hydrogen in the ultra-dense state. The apparatus (10) further includes a specially designed barrier (21) and a shield (23) to retain the super-fluid ultra-dense hydrogen from creeping away from the accumulation portion of the generator.

