^{187}Re(d,t) 1969La11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia	NDS 183, 1 (2022)	1-Mar-2022

E=12−MeV deuterons focused on a ≈99% enriched≤100−μg/cm^2 ^{187}Re target (ground state $J^\pi=5/2^+$) on a 100-200 μg/cm^2 carbon-film backing at the Florida State University tandem Van de Graaff accelerator. Emerging tritons were momentum analyzed using a Browne-Buechner broad-range magnetic spectrograph and detected by a set of three nuclear emulsion plates lying along the focal plane. Raw spectrograph data were analyzed using the computer code STRILDE to determine Q values and cross sections. A (d,t) exposure of 11000 μC was taken at a scattering of θ(lab)=75°. A ground-state (d,t) Q value of −1055 keV *25* was determined.

^{186}Re Levels

E(level)†	E(level)†	E(level)†	E(level)†
0 *2*	211 *2*	470 *2*	726 *10*
58.0 *20*	272 *2*	535 *2*	755 *10*
100 *2*	321 *2*	565? *10*	797 *10*
145 *2*	378 *2*	647 *10*	820 *10*
177‡ *2*	420 *4*	687 *10*	

† For E(level)≥565 keV, reasonable uncertainties are 5-10 keV (1969La11); the evaluators assign 10 keV in all instances.
‡ Unresolved doublet.