

$^{208}\text{Pb}(^{11}\text{Li}, ^9\text{Li}2\text{n})$ [1997Zi04](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu		NP A880, 88 (2012)	1-Jan-2011

[1990An28](#): $^9\text{Be}(^{11}\text{Li}, ^9\text{Li})$, $E=29$ MeV/nucleon; measured $\sigma(\theta)$ following projectile breakup; deduced neutron halo radius.
[1992KoZW](#): $\text{Pb}, \text{C}(^{11}\text{Li}, ^9\text{Li})$, $E=0.8$ GeV/nucleon; measured $N(\text{fragment})\text{-coin}$.
[1992Or03](#): $^9\text{Be}(^{11}\text{Li}, ^9\text{Li})$, $E=66$ MeV/nucleon; measured ejectile momentum distributions.
[1992Ri01](#): $^9\text{Be}(^{11}\text{Li}, ^9\text{Li})$, $E=30$ MeV/nucleon; measured $\sigma(\theta)$; deduced correlation with two-neutron separation energies, nn-distribution.
[1992ShZV](#): $\text{Pb}(^{11}\text{Li}, ^9\text{Li})$, $E=43$ MeV/nucleon; measured three-body system invariant mass, $2\text{n-}^9\text{Li}$ relative energy spectrum. ^{11}Li deduced soft E1 mode, strength distribution.
[1992Ta15](#): $^9\text{Be}, \text{C}(^{11}\text{Li}, ^9\text{Li})$, $E=400$ MeV/nucleon; measured invariant σ , fragment transverse momentum distributions. ^{11}Li deduced density distribution, halo neutrons correlation.
[1993ShZW](#): $^9\text{Be}(^{11}\text{Li}, ^9\text{Li})$, $E\approx 67$ MeV/nucleon; measured $\sigma(\theta)$ vs momentum.
[1993ShZZ](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=43$ MeV/nucleon; measured $2\text{n}(^9\text{Li})\text{-coin}$; deduced $\sigma(E)$.
[1995Sh14](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=43$ MeV/nucleon; measured particle spectra following projectile breakup, $E(N(\text{relative}))$; deduced ^{11}Li excitation spectrum, mechanism. Di-neutron model.
[1996Ie01](#): $^{208}\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=28$ MeV/nucleon; measured $^9\text{Li}(2\text{n})\text{-coin}$; deduced angular correlation between two neutrons In the rest frame of ^{11}Li . ^{11}Li level deduced No bound dineutron evidence.
[1997Zi04](#): $\text{C}, \text{Pb}(^{11}\text{Li}, \text{xn})$, $E=280$ MeV/nucleon, measured neutron multiplicity, breakup σ . ^{11}Li deduced resonances, decay features, γ -decay associated sum rule strength.
[1998TaZS](#): $^2\text{H}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=64$ MeV/nucleon; measured neutron, deuteron, core fragment spectra.
[2000Ma12](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=30$ MeV/nucleon; measured neutron spectra, (neutron)(neutron)(core)-coin; deduced correaltion functions. ^{11}Li deduced radii, N-N separations.
[2000Wa23](#): $\text{Pb}(^{11}\text{Li}, ^9\text{Li})$, $E=30\text{-}60$ MeV/nucleon; measured neutron-removal σ ; deduced role of electromagnetic dissociation.
[2005Na40](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=70$ MeV/nucleon; measured relative energy spectra.
[2006Na21](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=70$ MeV/nucleon; measured relative energy spectra. ^{11}Li deduced B(E1) distribution.
[2006Na39](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=70$ MeV/nucleon; measured relative energy spectra. ^{11}Li deduced B(E1) distribution, neutron-neutron correlation In ground state.
[2008NaZY](#): $\text{Pb}(^{11}\text{Li}, 2\text{n}^9\text{Li})$, $E=70$ MeV/nucleon, measured neutron-neutron correlations. ^{11}Li , deduced B(E1) distribution.
 The published level energies are adjusted up by 70 keV due to the chanage In adopted mass (2n separation energy) ([2008Sm03](#)).

 ^{11}Li Levels

E(level)	$T_{1/2}$	Comments
1.1×10^3 1	0.7 MeV 2	E(level): Γ : from (1997Zi04). Consistent with a peak At $E_{\text{res}}=0.7$ MeV with $\Gamma=0.8$ MeV seen In (1996Ga08 , 1996Ie01).
2.5×10^3 2	2.1 MeV 6	E(level): Γ : from (1997Zi04).