

**Coulomb excitation 2008Et01,2002Pr12**

Type	Author	History	Citation	Literature Cutoff Date
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**2008Et01:**  $^{30}\text{Na}$  beam of 80.1 MeV/nucleon was produced from a  $^{48}\text{Ca}$  primary beam, 140 MeV/nucleon, bombarding a thick  $^9\text{Be}$  target; particles identified by energy loss and Time-of-Flight; Coulomb excitation of the secondary  $^{30}\text{Na}$  beam by a  $^{209}\text{Bi}$  target; Measured  $E_\gamma$  using SeGA array of 18 HPGe detectors.

**2002Pr12:**  $^{30}\text{Na}$  beam of 55.6 MeV/nucleon was produced from a  $^{48}\text{Ca}$  primary beam, 80 MeV/nucleon, bombarding a thick  $^9\text{Be}$  target; particles identified by charge determination and Time-of-Flight; Coulomb excitation of the secondary  $^{30}\text{Na}$  beam by a  $^{197}\text{Au}$  target;  $\gamma$ -rays were detected by an array of 38 NaI(Tl) detectors; deduced Coulomb deformation parameter=0.41 *l*0 and matter deformation parameter=0.46 *l*1; also deduced an intrinsic quadrupole moment=0.51 *l*5 b.

 $^{30}\text{Na}$  Levels

E(level)	$J^\pi$	Comments
0.0	$2^+$	$J^\pi$ : from Adopted Levels.
424 3	$(3^+)$	$J^\pi$ : from comparison of experimental and MCSM calculated level energies. $B(E2)\uparrow=0.0147$ 21 ( <b>2008Et01</b> ), deduced from measured Coulomb excitation cross section using predicted value of $B(M1)(2^+ \text{ g.s. to } 3^+) = 0.268$ . Predicted value of $B(E2)=0.0168$ in <b>2008Et01</b> . $B(E2)\uparrow=0.0130$ +90-65 ( <b>2002Pr12</b> ), extracted from coupled-channels calculations that took into account both electromagnetic and nuclear contributions to the scattering reaction.

 $\gamma(^{30}\text{Na})$ 

$E_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
424 3	424	$(3^+)$	0.0	$2^+$	$E_\gamma$ : 433 keV 16 ( <b>2002Pr12</b> ).

$^\dagger$  From **2008Et01**.

**Coulomb excitation 2008Et01,2002Pr12**Level Scheme