

$^{27}\text{S} \beta^+$  decay **2001Ca60,1991Bo32**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 112, 1875 (2011)	30-Nov-2010

Parent:  $^{27}\text{S}$ :  $E=0.0$ ;  $J^\pi=(5/2^+)$ ;  $T_{1/2}=15.5$  ms 15;  $Q(\beta^+)=18260$  SY;  $\% \beta^+$  decay=100.0

**2001Ca60**:  $^{27}\text{S}$  obtained from  $^{36}\text{Ar}$  fragmentation from  $\text{C}(^{36}\text{Ar},\text{X})$ ,  $E=95$  MeV/u, reaction; isotopes were separated using mass spectrometers at GANIL facility. Silicon-detector telescope, HPGe Clover detector; Measured:  $E\gamma$ ,  $\beta^-\gamma$  coin,  $\beta$  delayed particles/protons, Time-of-Flight (TOF), isotopes identified by  $\Delta E$ -TOF matrix; deduced Isobaric Analog State and estimated an excitation energy of  $\approx 3100$  keV in  $^{27}\text{P}$  from the measured Gamow-Teller peak at 2260(40) keV, and comparison of mirror nucleus  $^{27}\text{Mg}$  level at 3100 keV ( $J^\pi=3/2^+, 7/2^+$ ).

**1991Bo32**:  $^{27}\text{S}$  obtained from  $^{36}\text{Ar}$  fragmentation as  $\text{C}(^{36}\text{Ar},\text{X})$ ,  $E=85$  MeV/u; isotopes separated by LISE spectrometer at GANIL facility; six silicon-detectors; Measured: particles/protons energy loss and total energy, Time-of-Flight (TOF).

 $^{27}\text{P}$  Levels

E(level)	Comments
12752 50	E(level): Isobaric analog state (IAS) of $^{27}\text{P}$ deduced in <b>2001Ca60</b> from the average of measured two-proton emission energies to the g.s. of $^{25}\text{Al}$ . Measured two-proton group energy: 6270(50) keV ( <b>2001Ca60</b> ), 6410(45) keV ( <b>1991Bo32</b> ); average: 6340(35) keV.

 $\varepsilon, \beta^+$  radiations

E(decay)	E(level)	$I(\varepsilon + \beta^+)^{\dagger}$	Comments
(5508 SY)	12752	3.4 14	$I(\varepsilon + \beta^+)$ : From <b>2001Ca60</b> .

$^{\dagger}$  Absolute intensity per 100 decays.