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New Analysis of Levels in ^{152}Pr E.H. WANG, J.H. HAMILTON, A.V. RAMAYYA, J.K. HWANG, Vanderbilt Univ., J.M. ELDRIDGE, Vanderbilt Univ./Union Univ., A. NAVIN, M. REJMUND, A. LEMASSON, S. BHATTACHARYYA, GANIL, S.H. LIU, Vanderbilt Univ./Univ. of Kentucky, N.T. BREWER, Vanderbilt Univ./Univ. of Tennessee, Knoxville, Y.X. LUO, Vanderbilt Univ., J.O. RASMUSSEN, LBNL, S.J. ZHU, Tsinghua Univ., G.M. TERAKOPIAN, YU. TS. OGANESSIAN, JINR(Dubna) — The previous reported levels and assignments to ^{152}Pr [1] have recently been called into question [2] about the mass assignment of the reported bands [1]. Recently prompt gamma-rays in coincidence with isotopically-identified fission fragments using VAMOS++ and EXOGAM, produced using ^{238}U on a ^{9}Be target, at an energy around the Coulomb barrier have been reported. [3]. We have combined the $\gamma-\gamma-\gamma-\gamma$ data from ^{252}Cf (SF) and those from the in-beam mass- and Z-gated spectra to assign transitions and levels in ^{152}Pr. The transitions previously assigned to ^{152}Pr are all seen in the ^{151}Pr M-Z gated spectra but not in the ^{152}Pr M-Z gated spectrum. Hence the two bands are now assigned to ^{151}Pr. Two new bands with 20 new transitions in ^{152}Pr are identified from the $\gamma-\gamma-\gamma-\gamma$ coincidence and confirmed by the M-Z gated spectrum. The fission partners of Praseodymium (Yttrium isotopes) have a Gaussian yield distribution that peaks at 3n channel. The new level scheme of ^{152}Pr will be presented.

[1] S. H. Liu et al., Phys. Rev. **C** 84, 044303 (2011).
[2] T. Malkiewicz et al., Phys. Rev. **C** 85, 044314 (2012).
[3] A. Navin et al. 5th Int. Conf. on "Fission and properties of neutron-rich nuclei," World Scientific, in press.

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