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Study of States Near $\mathbf{E}_x$ = 6 MeV in ^{18}Ne Using ^{17}F(p,p)[1] B SUDARSAN, Louisiana State University, Baton Rouge. , L E LINHARDT, J C BLACKMON, C M DEIBEL, H E GARDINER, K T MACON, Louisiana State University, Baton Rouge, L T BABY, I WIEDENHWER, Florida State University, Tallahassee — The ^{14}O(α,p)^{17}F reaction rate has a strong influence on the light curve of Type I X-ray bursts. At temperatures lower than 1 GK, this rate is dominated by states in ^{18}Ne with $E_x \sim 6$ MeV. The RESOLUT radioactive-ion beam facility at FSU was used to study ^{18}Ne resonances around $E_x \sim 6$ MeV using ^{17}F+p scattering in inverse kinematics. We report a combined R-matrix analysis of data from our experiment with data from an earlier study[2] of the same reaction that covered a broader energy range but with poorer resolution. We will report constraints that can be placed on the spin-parity of resonances and proton partial widths that are important for the ^{14}O(α,p)^{17}F reaction rate. Results will be compared to information from other reaction studies in the literature.

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[2]J. Hu et al., Phys.Rev.C **85** 025803(2014)

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