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Indirect rp-process Rate Measurements from Single Neutron Removal A.M. AMTHOR, D. BAZIN, A. BECERRIL, A. COLE, J. COOK, A. ESTRADE, A. GADE, M. HOWARD, G. LORUSSO, M. MATOS, J. PEREIRA, M. PORTILLO, H. SCHATZ, B. SHERRILL, K. SMITH, A. STOLZ, D. WEISSHAAR, R.G.T. ZEGERS, National Superconducting Cyclotron Laboratory, East Lansing, MI, D. GALAVIZ, Instituto de Estructura de la Materia, CSIC, Madrid, A. CHEN, McMaster University, Hamilton, ON, ZS. FULOP, ATOMKI, Debrecen, E. SMITH, The Ohio State University, Columbus, OH, M. WIESCHER, University of Notre Dame, Notre Dame, IN — The structure of nuclei along the rp-process path in Type I X-ray bursts has been studied using neutron removal from radioactive beams produced at the National Superconducting Cyclotron Laboratory. Recently, ^{37}Ca and ^{36}K have been studied in this way to reduce the uncertainty in ^{35}Ar(p,γ)^{36}K and ^{36}K(p,γ)^{37}Ca reaction rates, which are important during burst rise. Under burst conditions these rates are dominated by resonant capture contributions from individual resonances because of the low level density just above the proton threshold, precluding the use of statistical methods based on level density to determine the reaction rates. Therefore, precise structure measurements are required to reduce the orders of magnitude rate uncertainty in these key reactions and thereby constrain X-ray burst models. Preliminary results will be presented along with the implications for X-ray burst models.

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