Abstract for an Invited Paper for the DNP07 Meeting of The American Physical Society

Nucleosynthesis in the early Galaxy FERNANDO MONTES, NSCL

Recent observations of the abundances in metal-poor stars suggest that an additional mechanism besides the r-process is responsable for the production of material in the region $Z \leq 47$. Mixing of a light element primary process (LEPP) and the r-process pattern found in r-II metal-poor stars explain the apparent non-uniformity in their abundances. The LEPP abundance pattern based on those observations is used to explore the astrophysical conditions that would create it within a site-independent approach. In addition, a solar LEPP contribution is obtained by subtracting the contributions of other nucleosynthesis processes and it can be used to obtained information in the important A=130 abundance peak. The likely nature of the LEPP and its potential relevance for the s-process will be discussed.