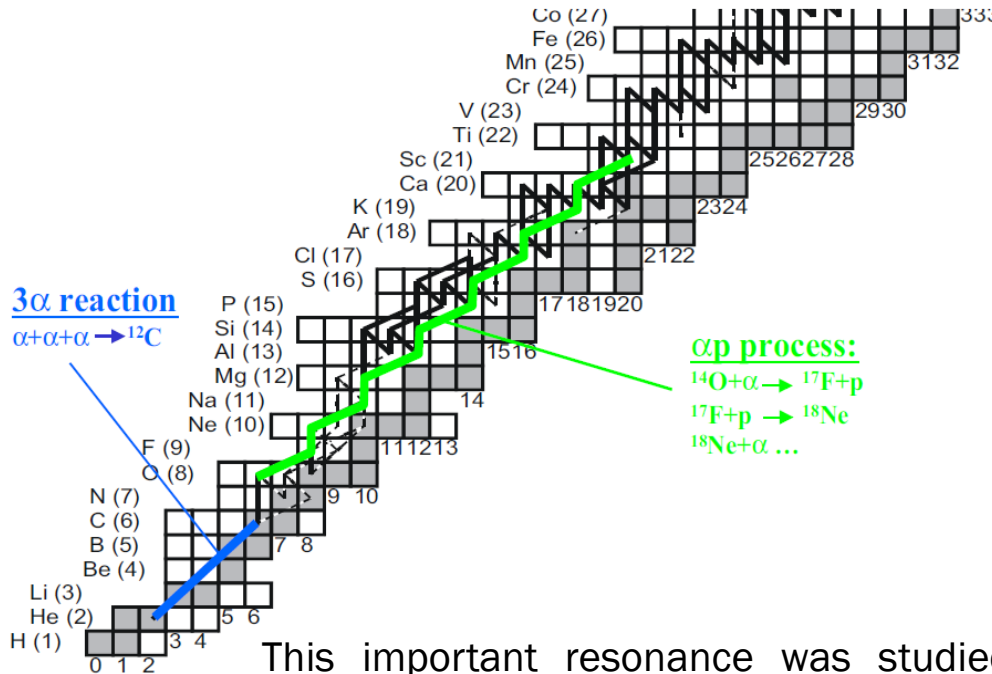


$^{17}\text{F}(p,p')^{17}\text{F}^*$ Study of Key $^{14}\text{O}(\alpha,p)^{17}\text{F}$ Resonance



This important resonance was studied using the $^{17}\text{F}(p,p')^{17}\text{F}^*$ reaction with an exotic ^{17}F beam produced by the TriSol facility at the NSL.

This provided the first confirmation of the previous measurement by Blackmon *et al.* (2003).

The $^{14}\text{O}(\alpha,p)^{17}\text{F}$ is a critical breakout reaction in X-ray bursts leading to the onset of the αp process.

Our estimates of the astrophysical rate depend on the properties of a key ^{18}Ne level at 6.15 MeV.

