

## Breakup of weakly bound $^{17}\text{F}$

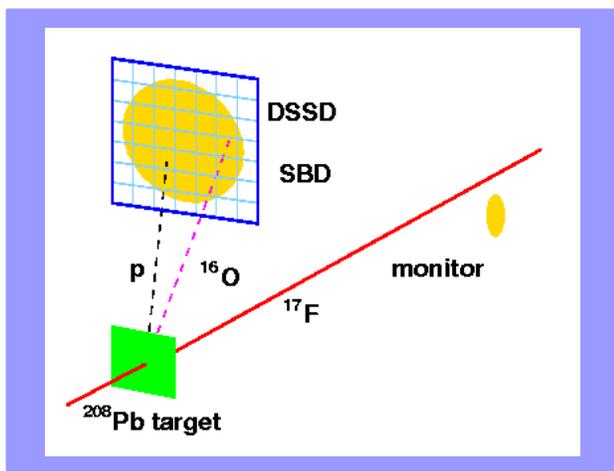
### The Science

- It is predicted that the fusion rate will be enhanced for reactions involving weakly bound nuclei which often have extended rms radius.
- The influence of the breakup of such nuclei on fusion is still an open question.
- A large enhancement was observed in the fusion of  $^6\text{He}+^{209}\text{Bi}$  near the Coulomb barrier as well as a large breakup cross section of  $^6\text{He}$ .
- No fusion enhancement was found in the  $^{17}\text{F}+^{208}\text{Pb}$  reaction.

### Our Work

- We have measured the breakup of  $^{17}\text{F}$  at an energy well above the Coulomb barrier.
- The breakup cross section is found to be too small to have noticeable effects on fusion.

Apparatus for measuring  $^{17}\text{F}$  breakup



Comparison of data and theory

