

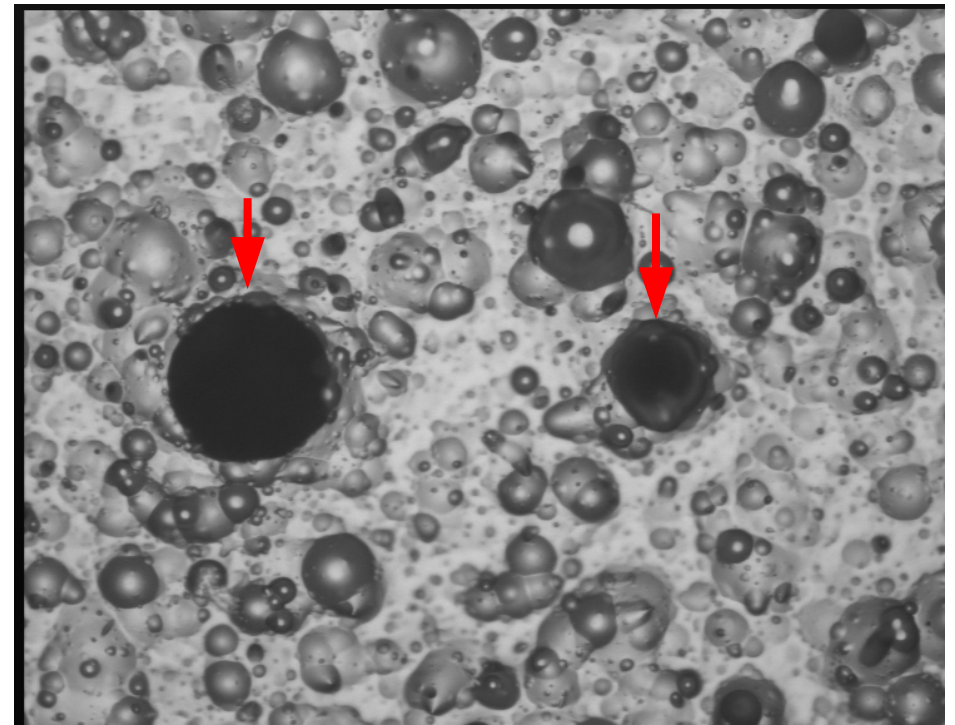
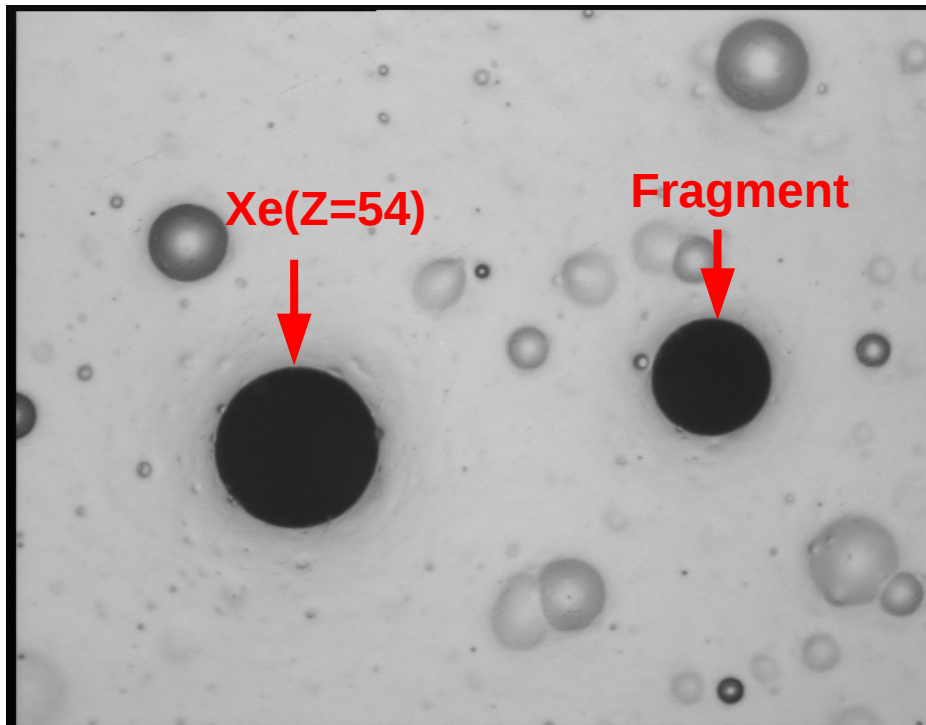
CR-39 etching with NaOH

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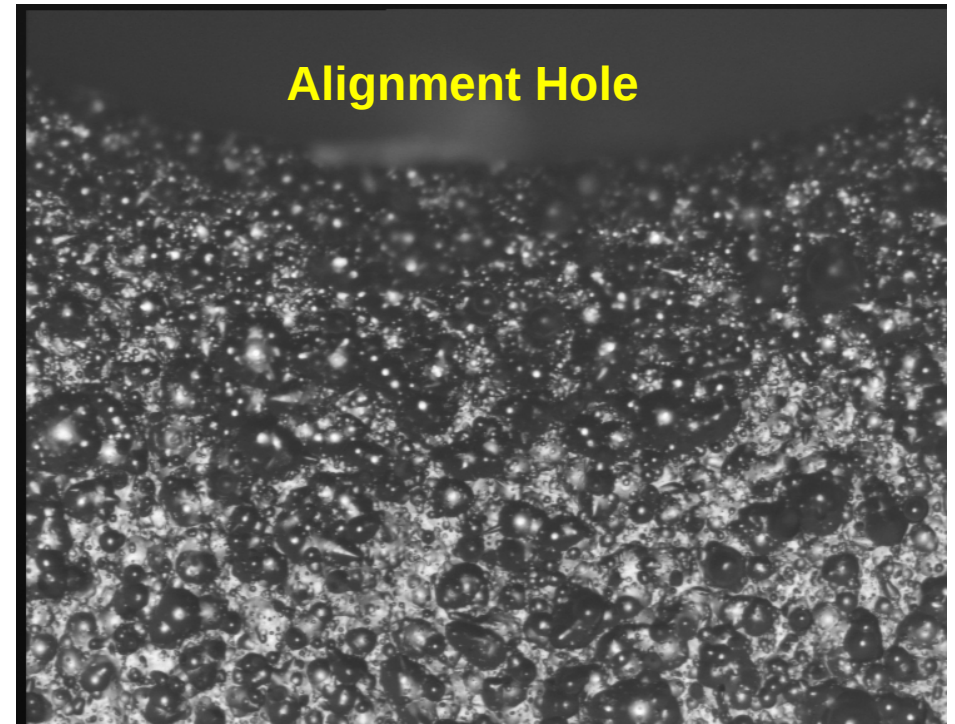
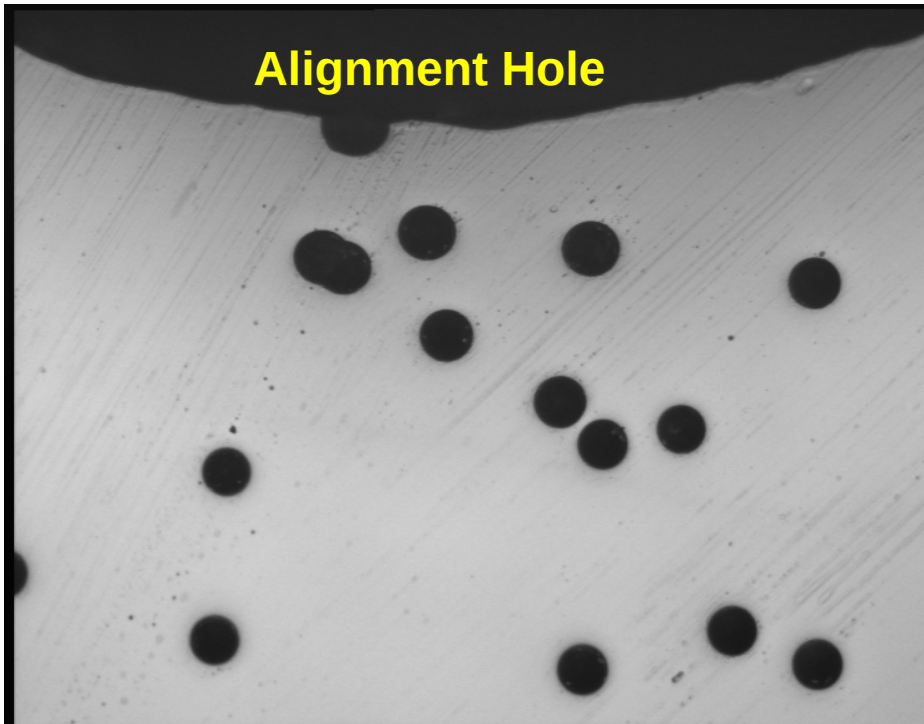
Etching with NaOH solution

6 N NaOH +3% Ethyl Alcohol at 70° C; Duration 24h



Xe (Dia ~ 78 μm) and smaller fragments (Dia ~ 54 μm) could be spotted on MoEDAL background

“Practical” Detection threshold ($Z/\beta > 26$)



Fe (Dia ~ 43 μm) and fragments could be spotted on clean foil
but NOT on MoEDAL background

Preliminary conclusions

- Surface quality is better with NaOH compared to KOH. Track contours sharper.
- Xe and fragments could be spotted BOTH on clean foils and on MoEDAL background
- Fe and fragments could be spotted on clean foils but NOT on MoEDAL background
- Indicates a “practical” detection threshold for CR-39 with MoEDAL background in the range $26 < Z/\beta < 40$
- For further calibration of CR-39, ions like Ne ($Z = 41$) and Kr ($Z = 36$) will be of particular interest. Help to zero in on the exact “practical” detection threshold
- More etching tests to be carried out with differing percentages of alcohol, to see if the detection threshold could be lowered