



Fermi National Accelerator Laboratory

EXTRUDED SCINTILLATOR R&D FOR MINERVA

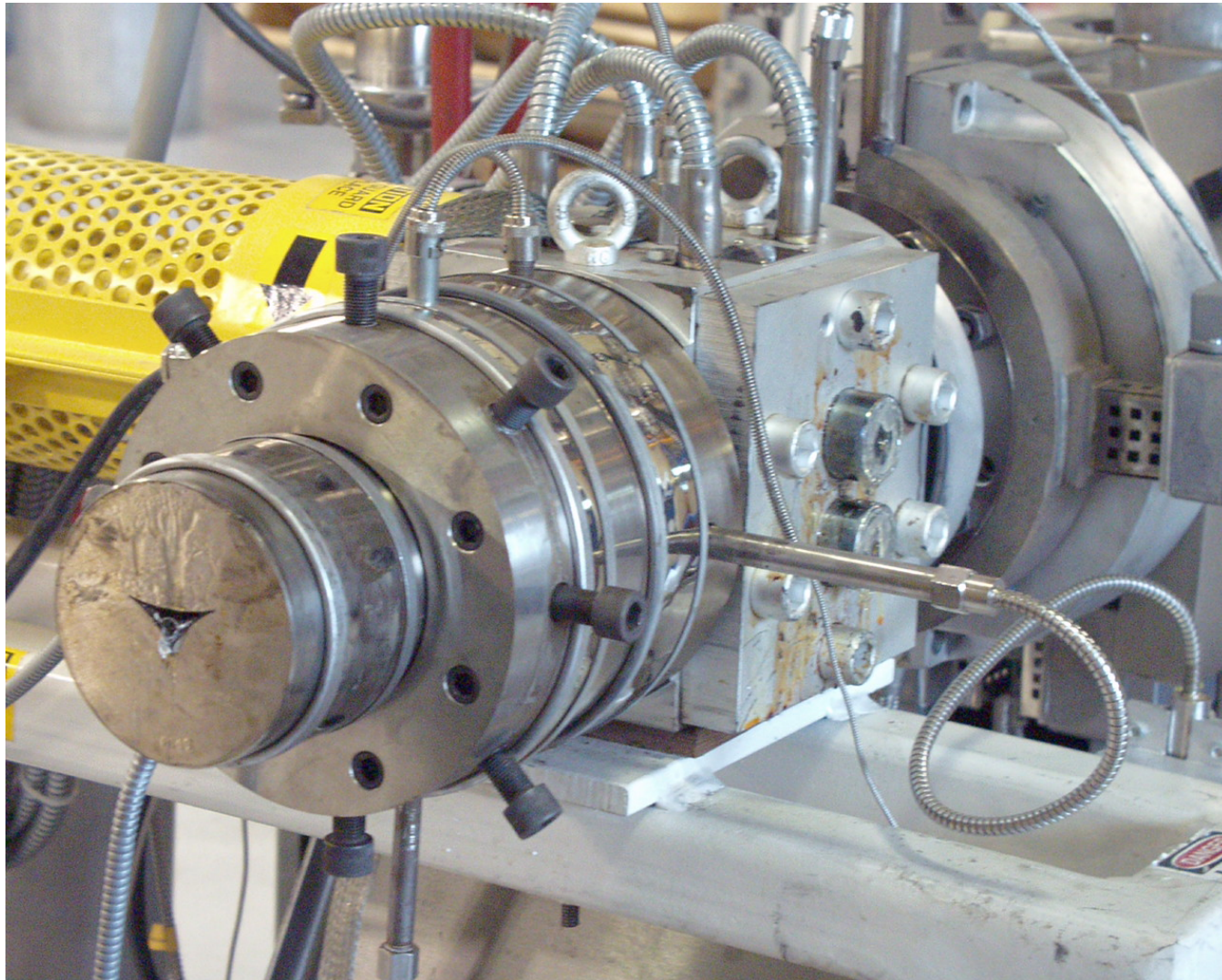
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Minerva Collaboration Meeting
May 13-14, 2005



FNAL/NICADD EXTRUSION FACILITY





PROGRESS FROM FEBRUARY MEETING

- Several R&D runs in March and May
 - GOAL: Better shape (bottom corners) and hole
 - Run extrusion rates of 75 kg/h
 - Calibrator was checked at SiDet
 - It was built to specifications: 17.48 cm and 33.87 cm
 - Reasonable triangular shape and hole
 - Problems: broken thread at calibrator
 - Solution: Do not stuff calibrator
- Back to the die maker to address triangle size
 - Widen triangle base corners?



NEAR FUTURE R&D

- Continue triangle extrusions at 75 kg/h
 - Improve overall size (hole + triangle)
- Square extrusions → on hold
 - Polystyrene is here
 - Dopants are here
 - Drawing is needed
- Co-extruder → main focus
 - Ready for P.O. or RFP



CO-EXTRUDER

- Contacted several manufacturers.
- For a 1.25 in. single screw pedestal co-extruder:
 - Killion-Davis-Standard (\$37,900 +, 14-16 wk delivery)
 - Crompton-Davis-Standard (\$32,300 +, 8-10 wk deliv.)
 - American Kuhne (\$38,000, 8-10 wk delivery, remote?)
- Die
 - Ball/socket die for co-extruder + transfer line (\$10k?)
 - Co-extrusion adapter for current and future dies (\$4.5k)