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SMP Diode Shots on Rits-6 Low Z and High Z MITL May 22 2007

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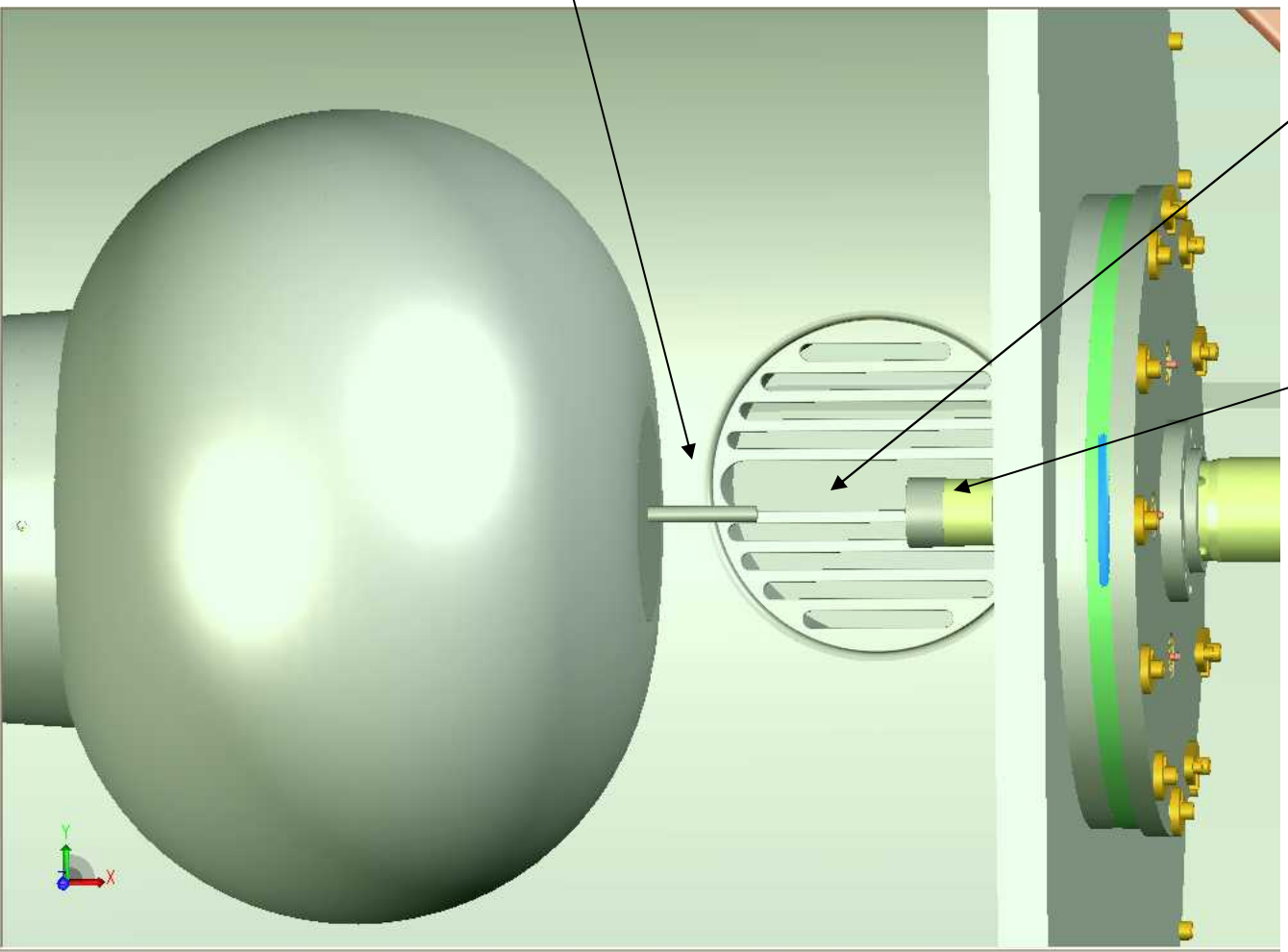
SMP Diode Configuration

3 different cathodes were used. All had 2 mm of Ag paint applied to the front surface.

12.5 mm OD= Standard Configuration

8.5 OD fired on three shots

16.5 mm Cathode fired on two shots



AK gaps ~ Cathode diameter

Standard target configuration was used on all shots: 0.85 mm Ta converter, 14u Al foil, 14mm (total) Al electron absorbers

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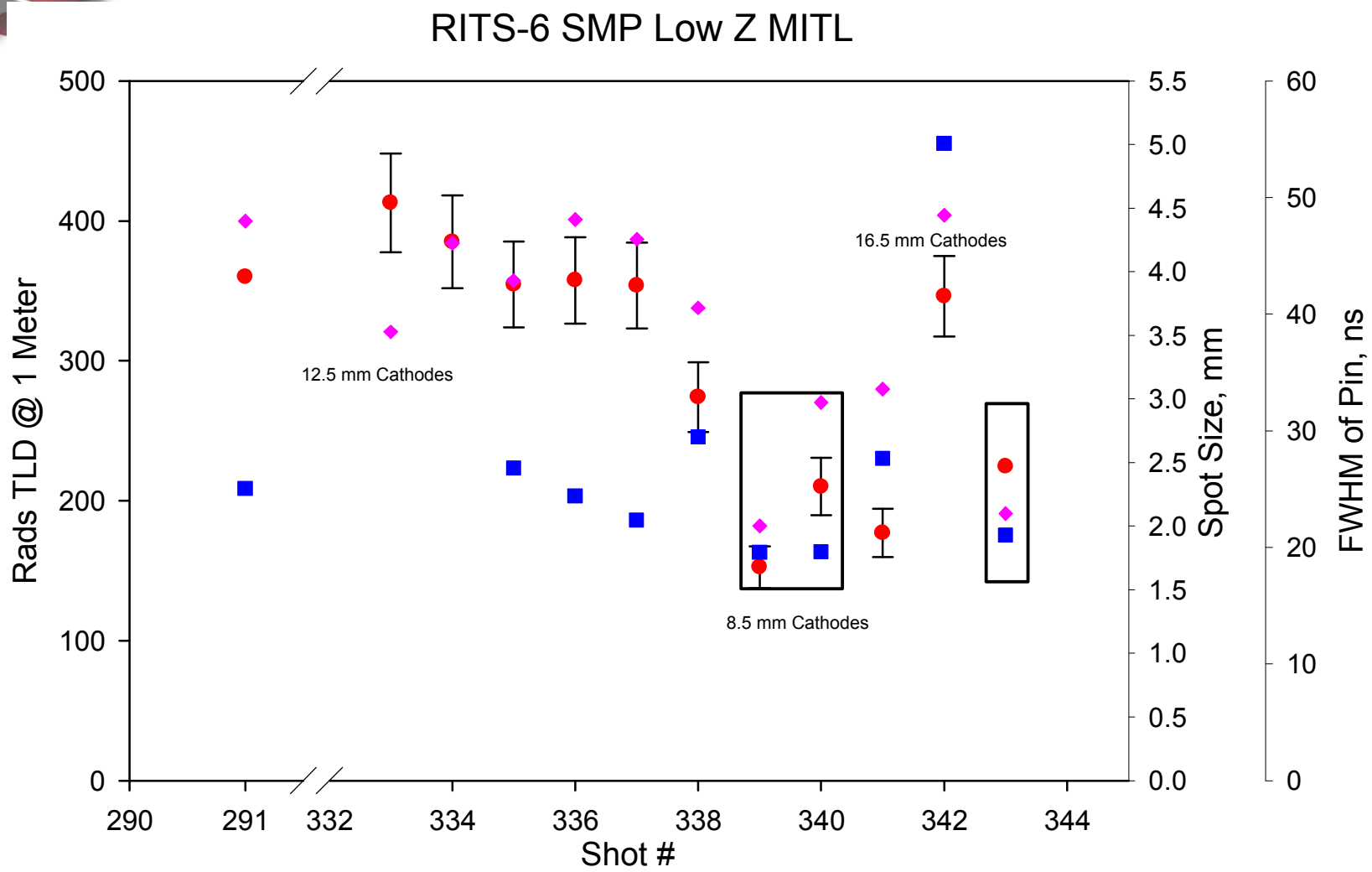
Dose, LSF Spot and FWHM of Pin4.



- **Shot # vs Rads @ 1 Meter from TRSD**
- **Shot # vs LSF AVG**
- **Shot # vs Pin4 FWHM**

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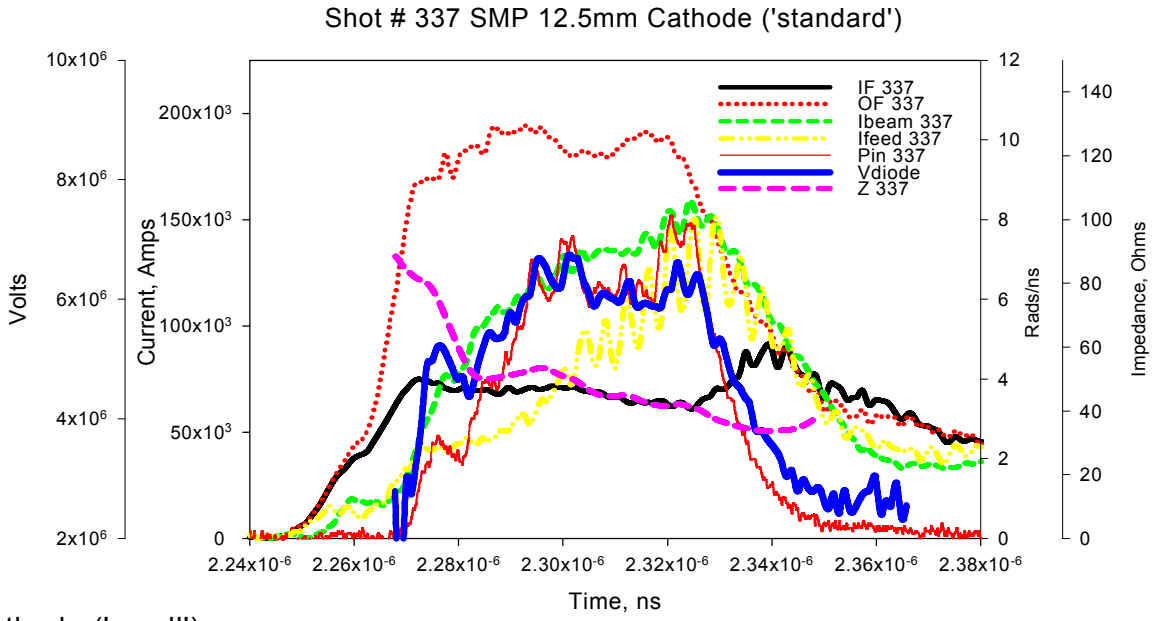
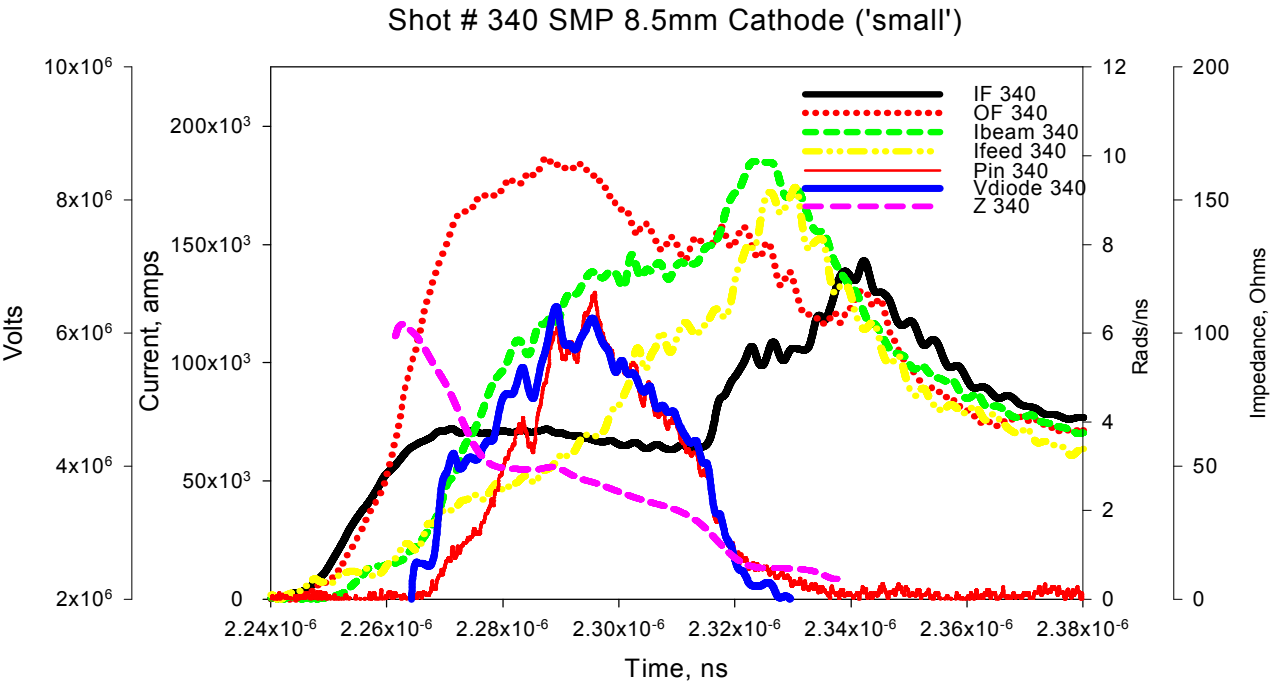
Typical electrical performance for 12.5 and 8.5mm OD cathode= Sub 2.5 mm spot and>350 Rads





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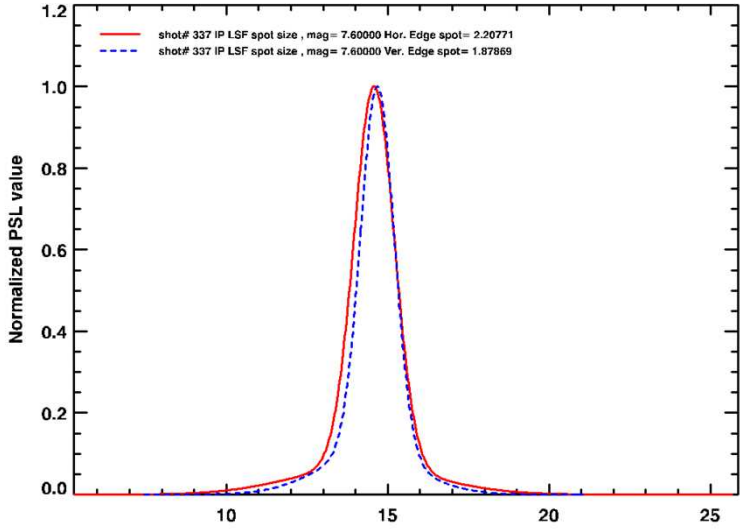
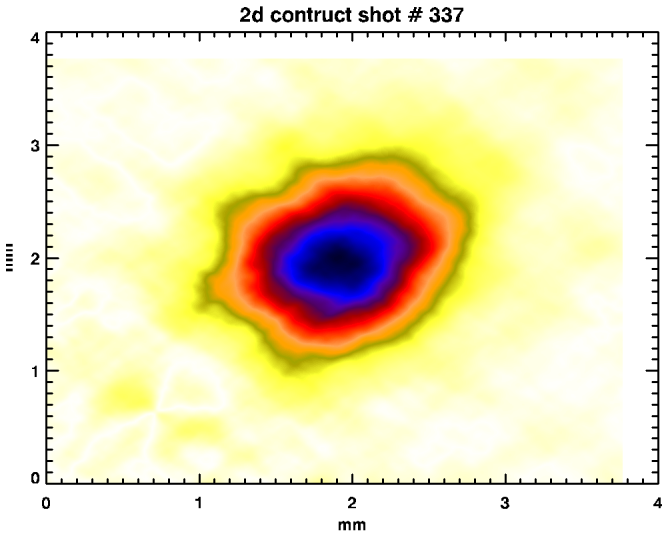
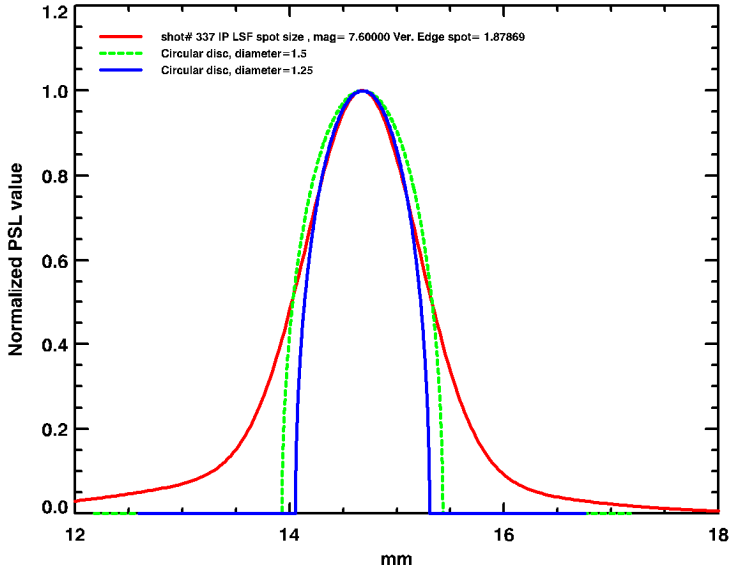
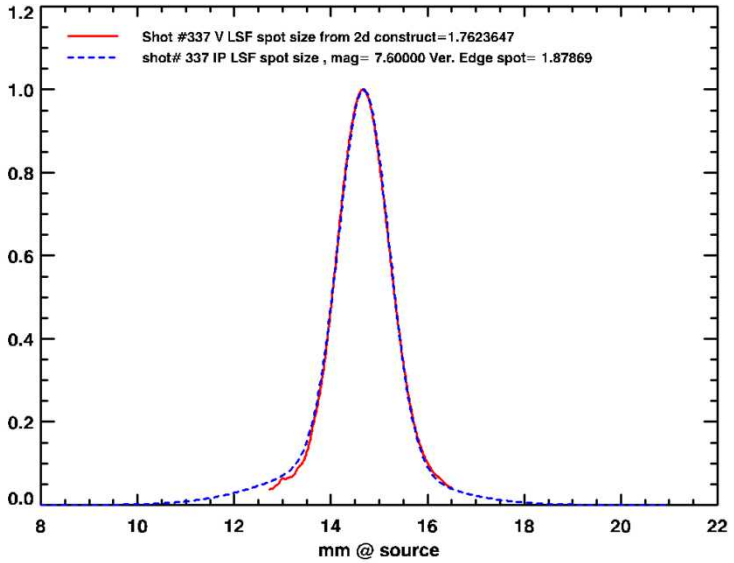
Comparison of LSF from IP and lsf from 2d re-construction
Fit of LSF from Uniformly filled disc to measured LSF

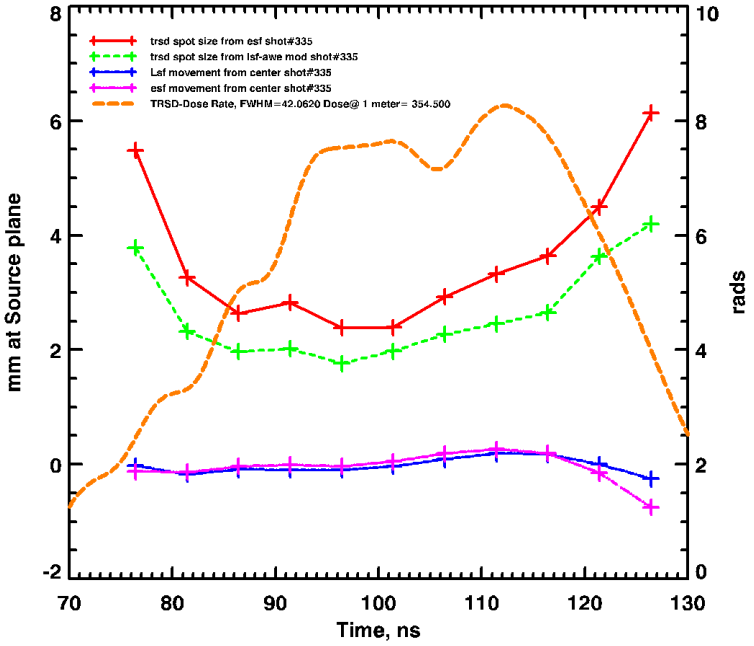


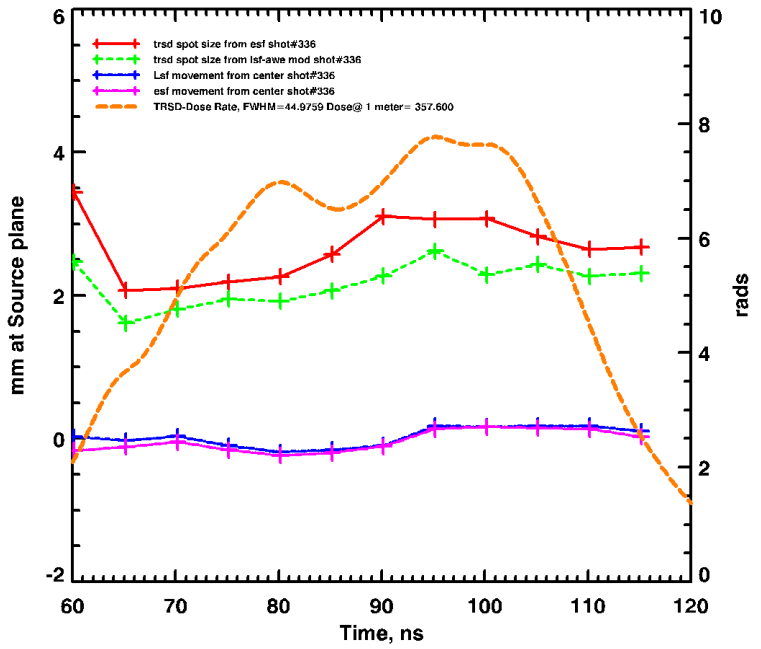


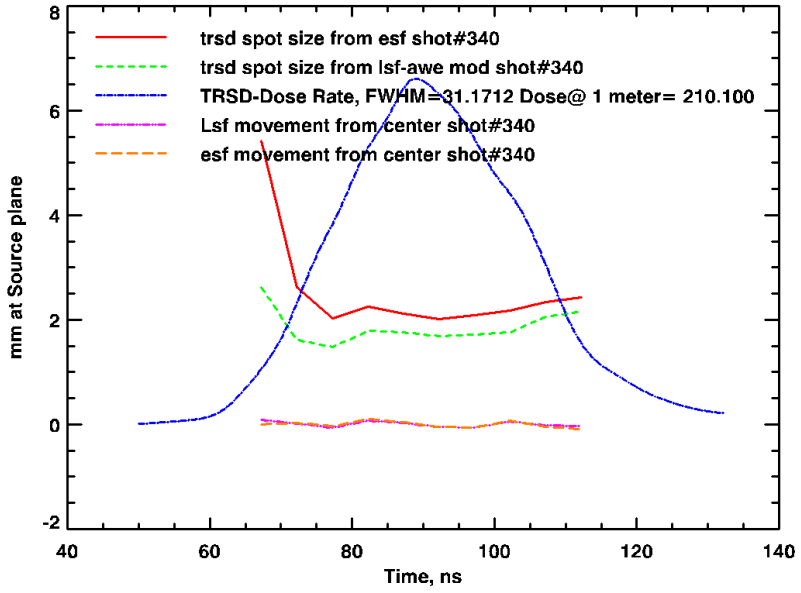




TRSD results for 8.5,12.5 and 16.5 mm OD cathodes







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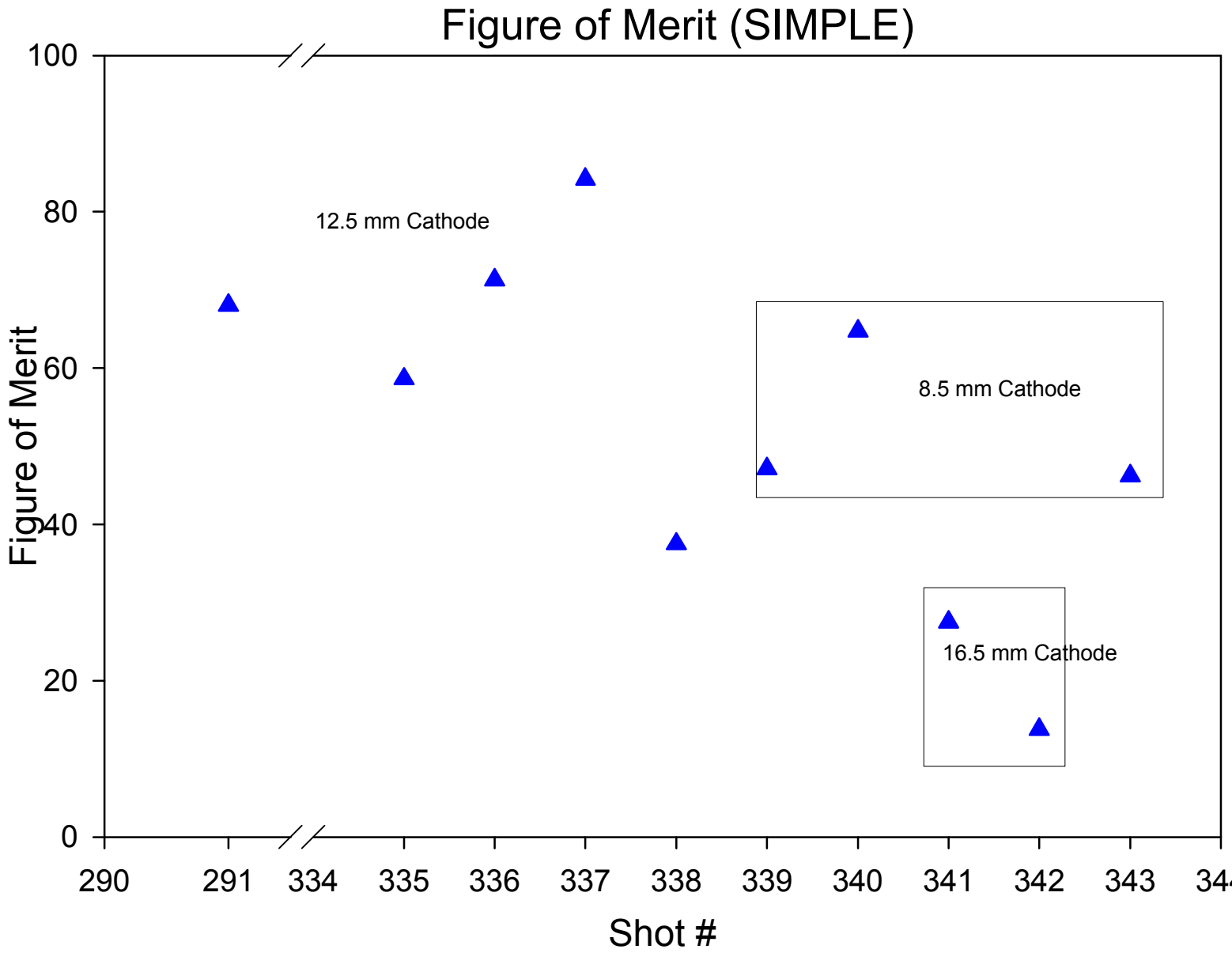
Simple (non information based) figure of merit calculation for this series.

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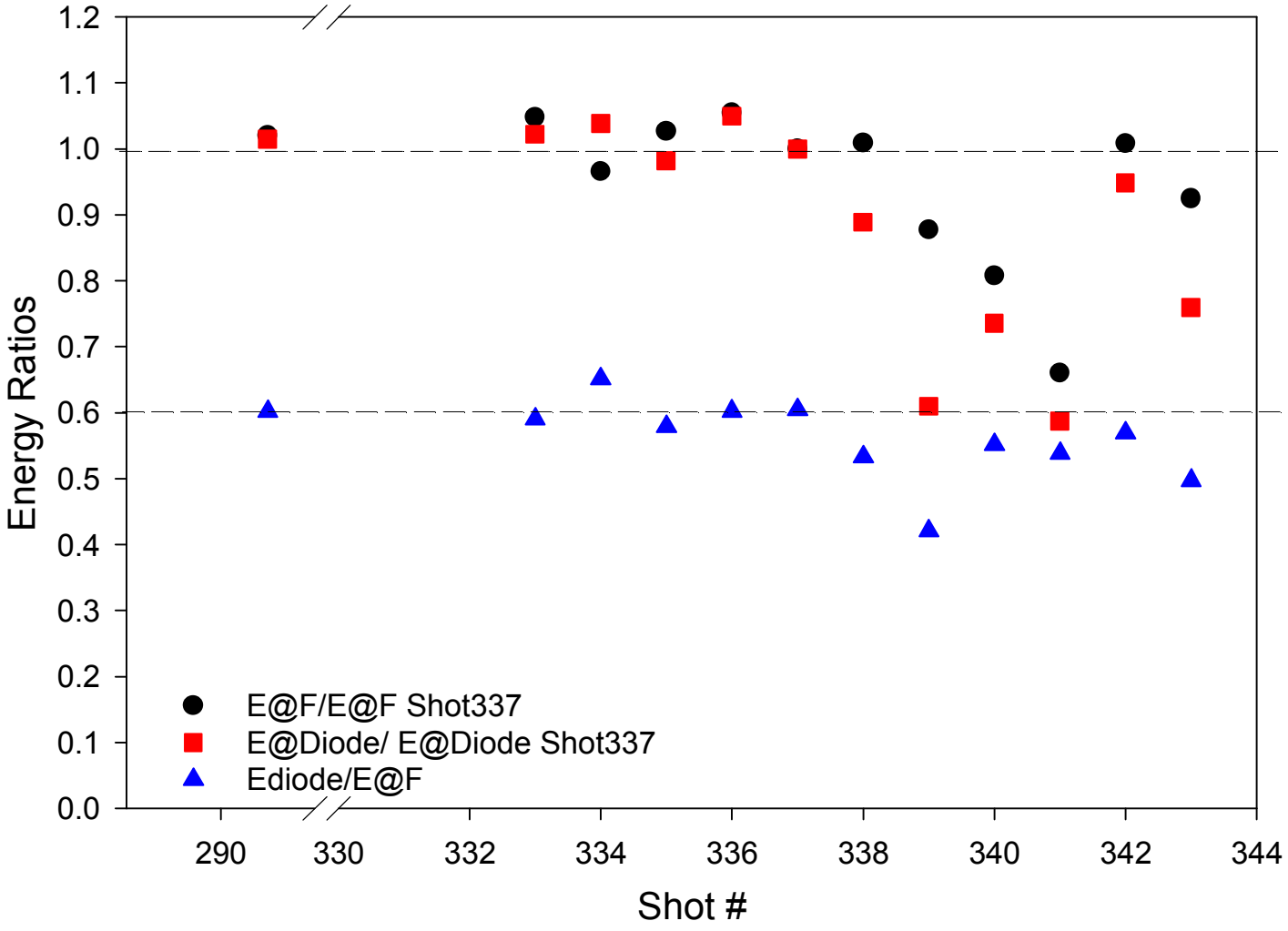
To obtain a baseline performance Energies @ position F were divided by Energy at Position F shot 337 (Black circles)

Similarly Energies diode/energy shot 337 (Red squares)

Finally, blue triangles= Ediode/@F



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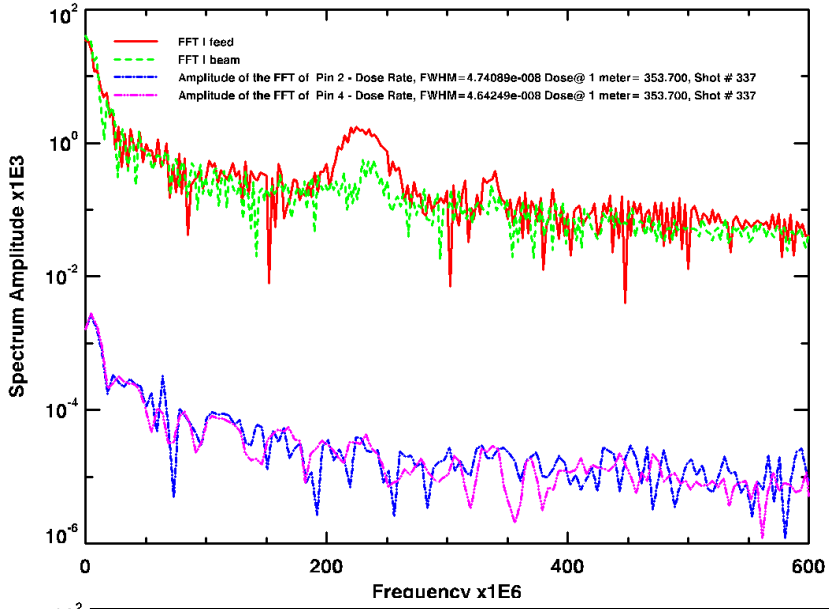
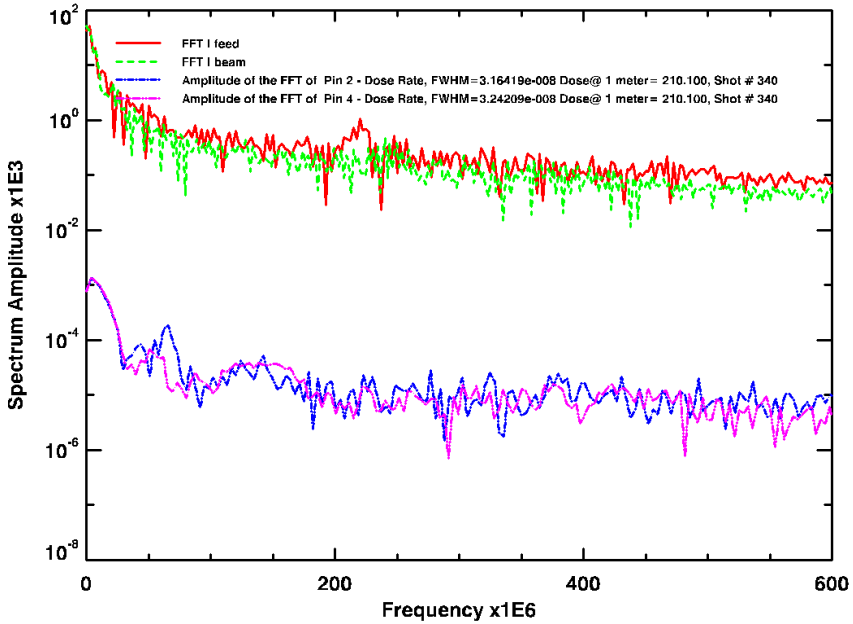
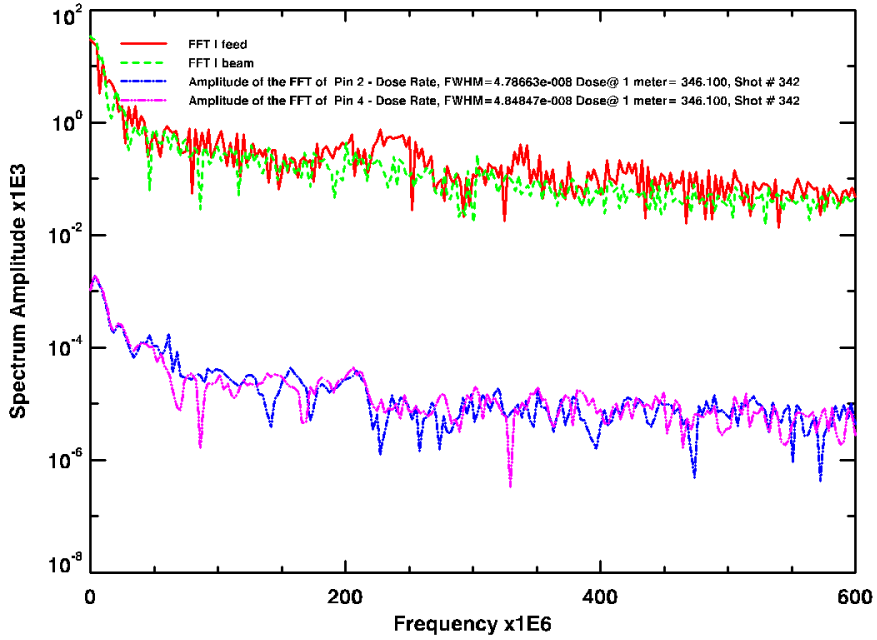
Typical FFT's of Ibeam, IFeed, Pin 4 and Pin 2 for all three cathodes. 225 Mhz signal seen on B dots but not in pins.







Although, sometimes there is a 125 Mhz…