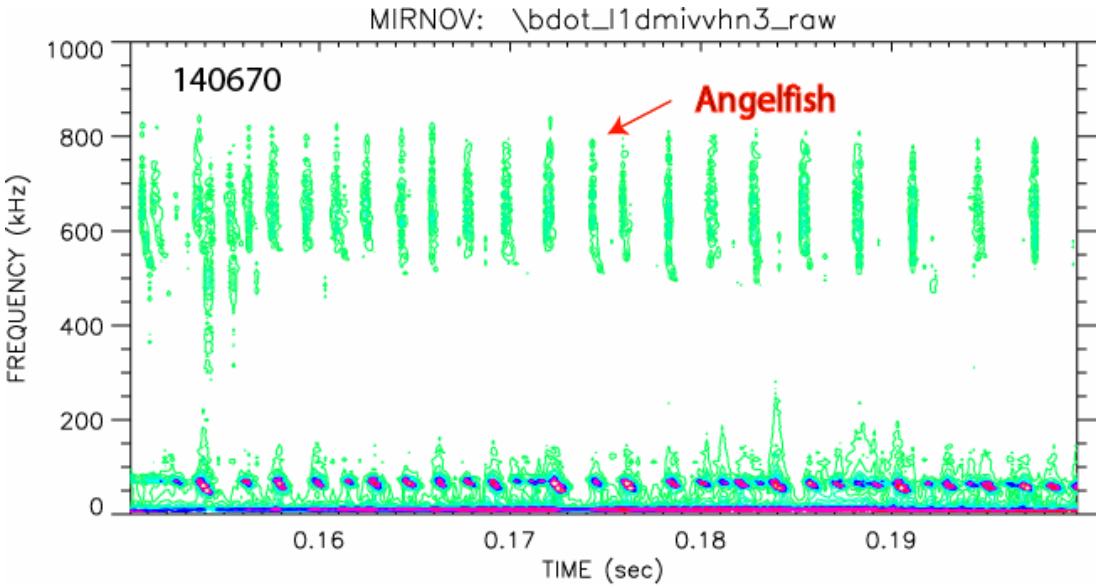
Nonlinear Evolution of "Angelfish" (XP-1014)



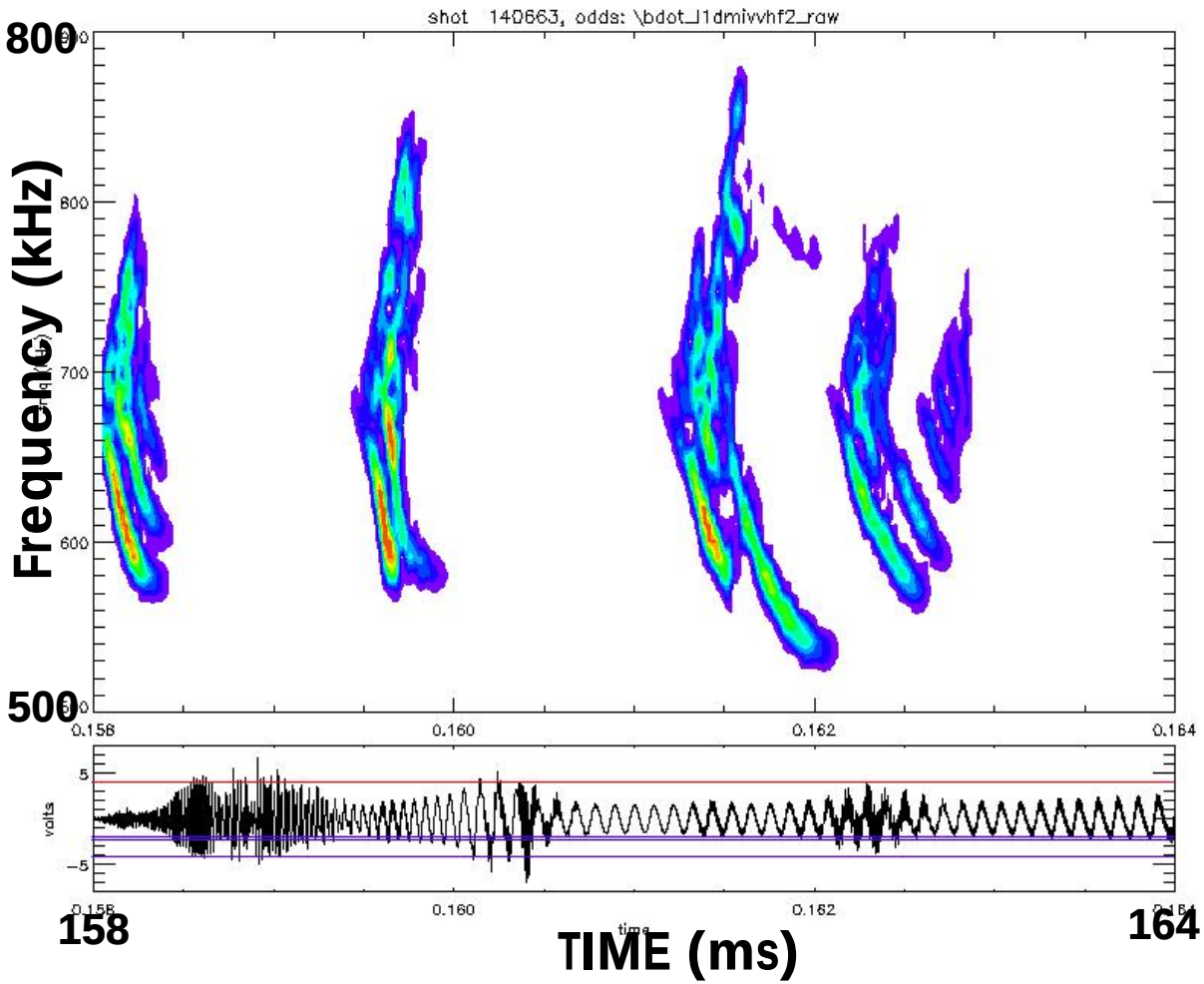
Goals

- Reproduce Angelfish
- Measure eigenfunction
- Use HHFW to alter frequency chirping

NSTX

UCIrvine
University of California, Irvine

Angelfish were successfully reproduced at 3.7 kG



- Good bursts quickly obtained
- Tried different sources—Source A gives desired bursts

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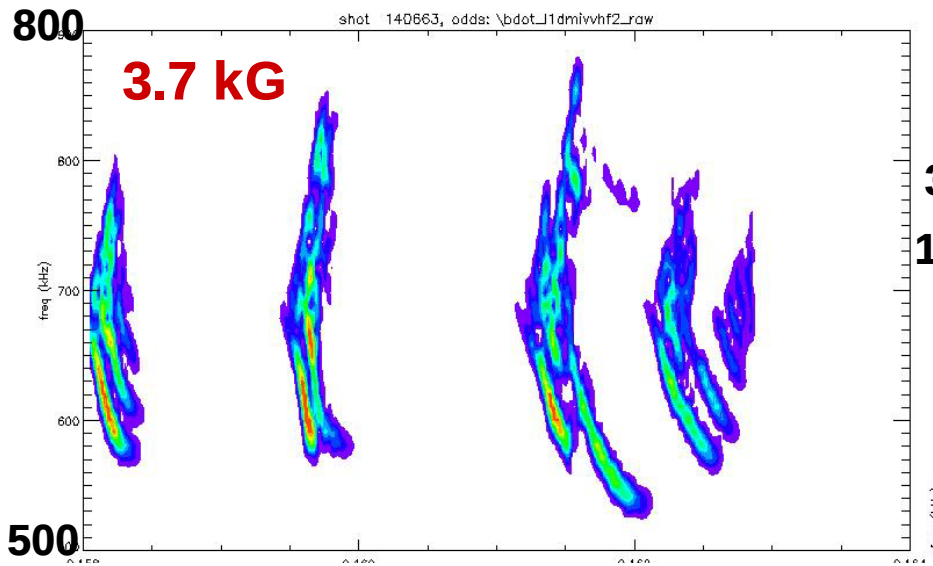
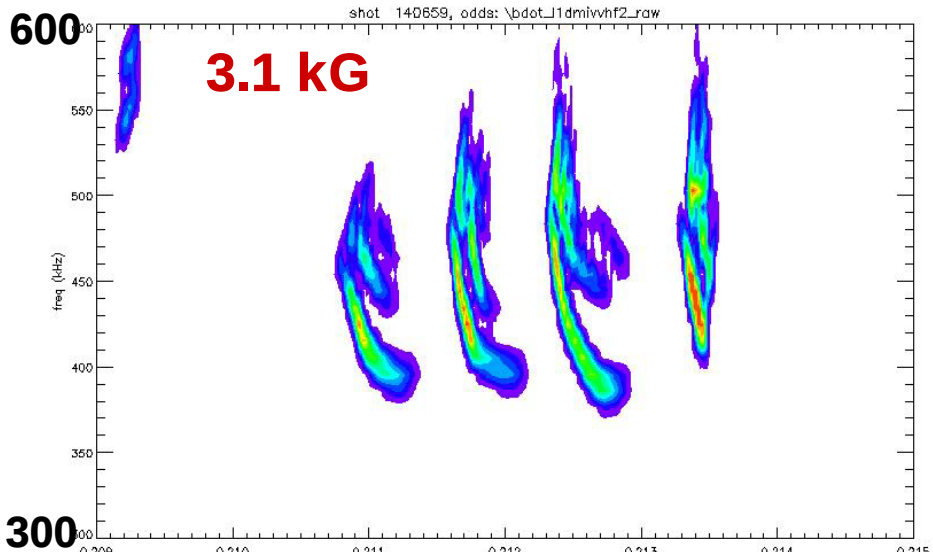
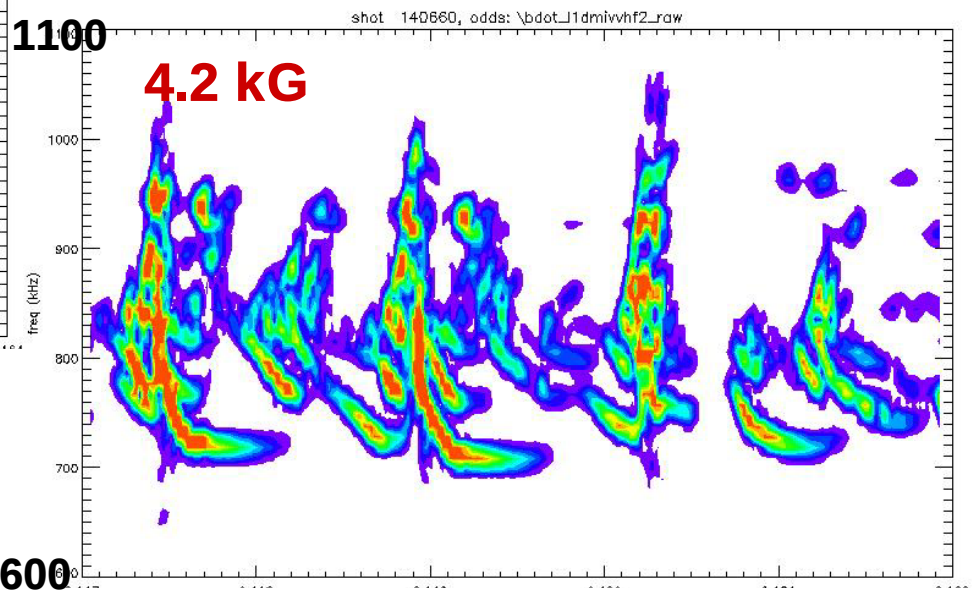
Toroidal field scan: 3.7 kG gave readily analyzed Angelfish







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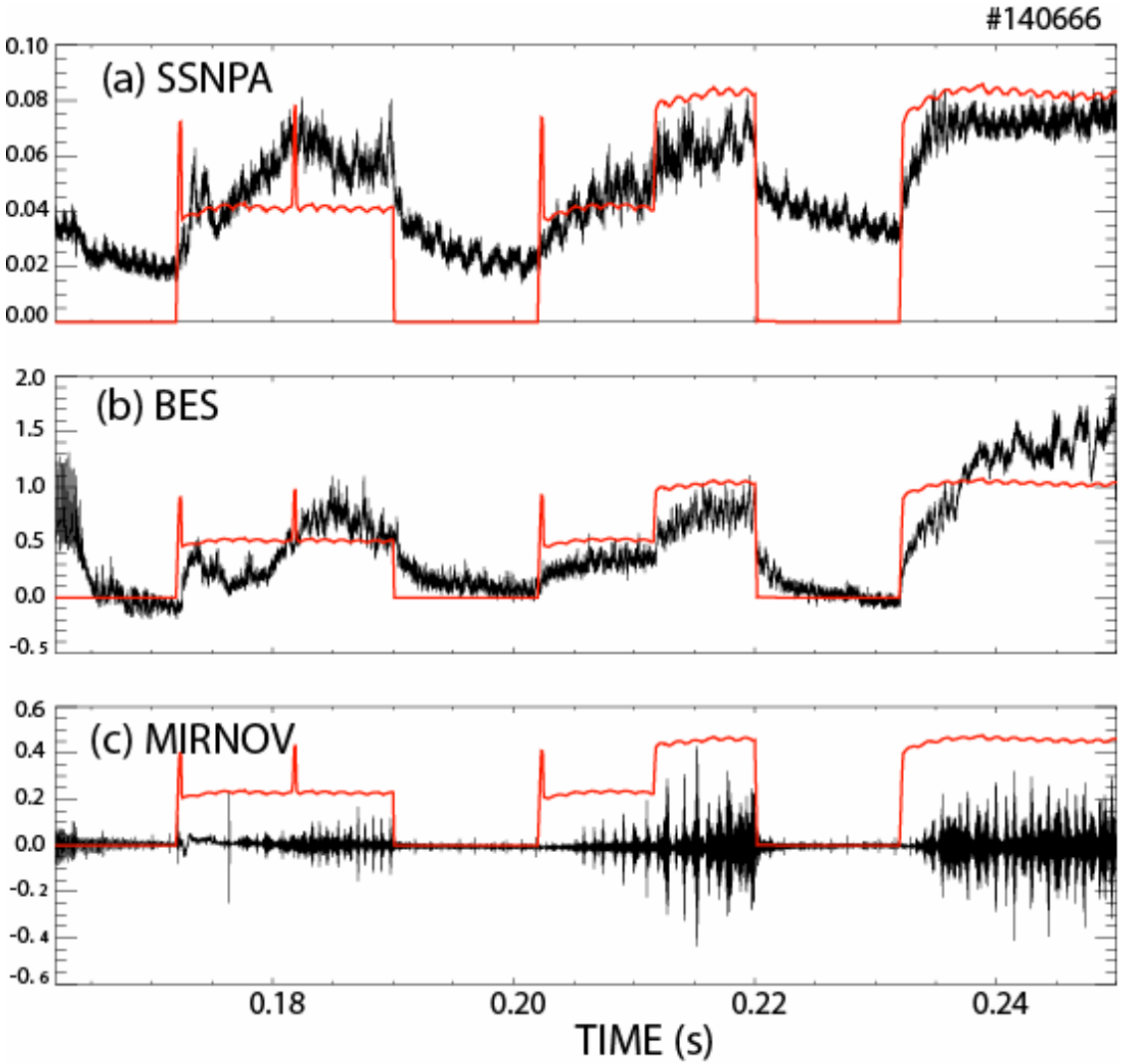
Most Goals *NOT* Achieved

Goals

- **Reproduce Angelfish**
- **Measure eigenfunction; reflectometers down; modes too small for BES autopower**
- **Use HHFW to alter frequency chirping; injected short pulses with > 1.5 MW but no effect on neutrons or chirping**

Beam Modulation useful for Diagnostic Tests



- **Persistence of signals after beam turns off → fast ions that charge exchange in edge contribute to SSNPA & BES signals**

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