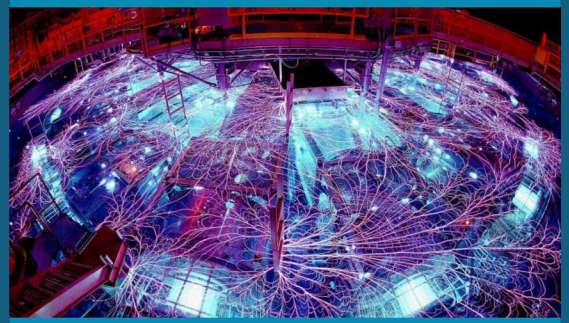
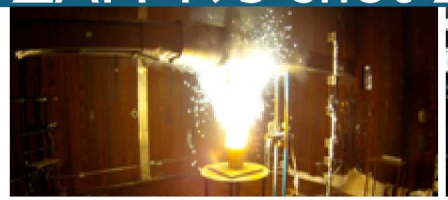
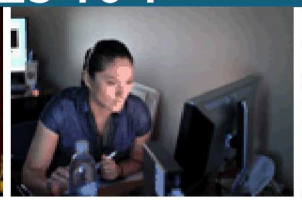
SAND2019-11882R

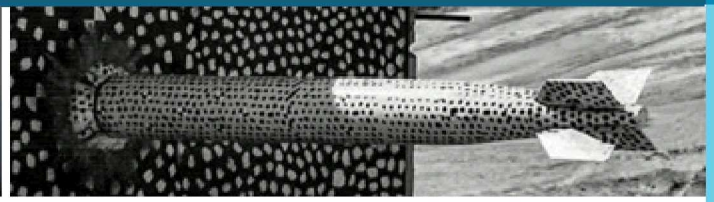
Ride-along Z data on LOS 70 (SVS) for university collaborators

ZAPP19b shot z3404









Requesting unlimited release to:

University of Texas at Austin collaborators:
Don Winget (professor), Michael Montgomery (Research scientist), Bart Dunlap (postdoc), Patty Cho (graduate student)

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Shot details

Shot: z3404, ZAPP19b, 09/10/2019

PI: J. E. Bailey / G. P. Loisel (1683)

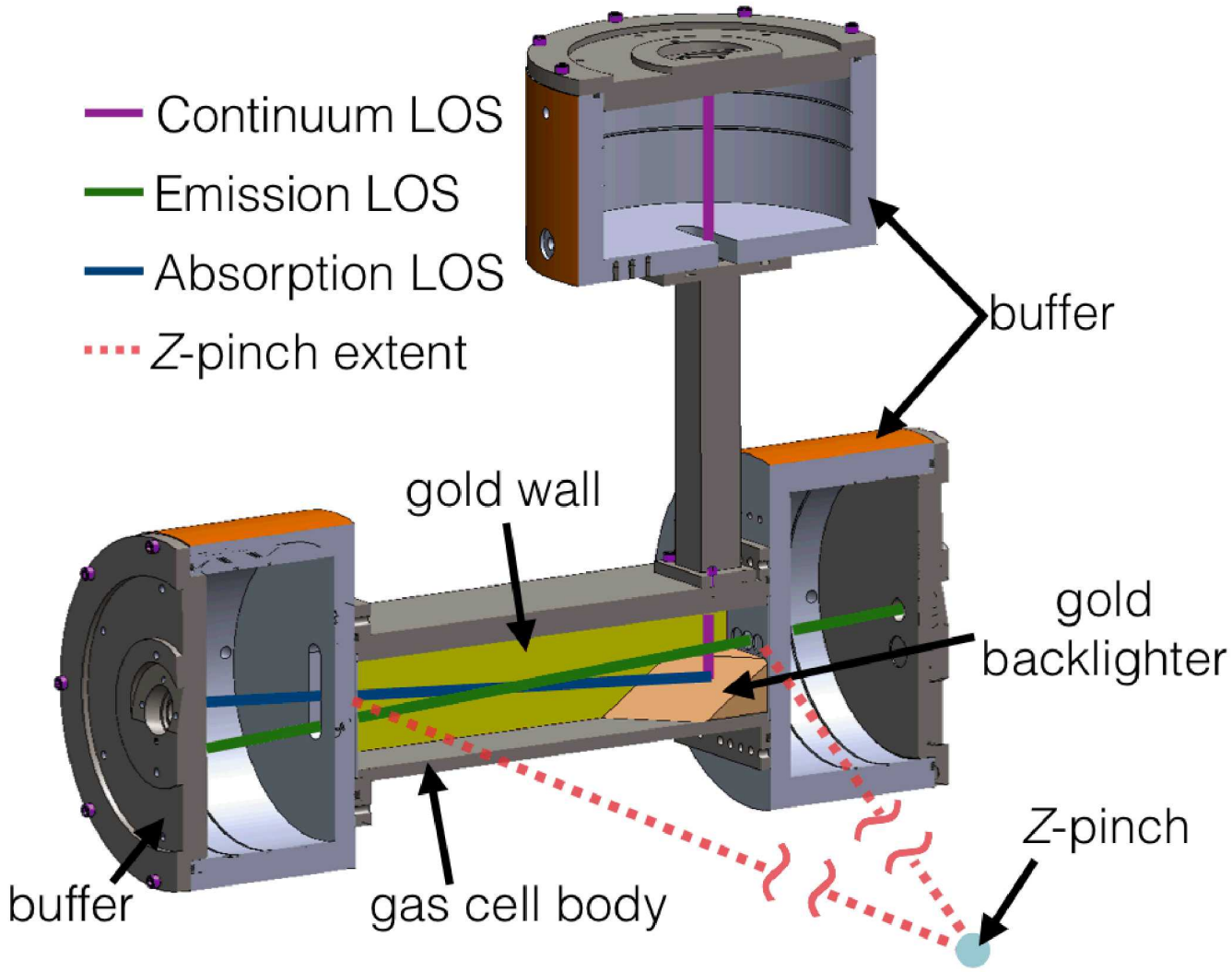
Series: ZAPP 19b

Diagnostics	z3404 - target
LOS 70 SVS 1, 2 SVS 1 wavelength range: 3500 – 5500 Å SVS 2 wavelength range: 4500 – 5500 Å	White Dwarf Photosphere Experiment gas cell with 0.2um polyamide window and 5 Torr CH_4 gas fill

SVS 1,2 collect emission data from the plasma created in the WDPE gas cell on film
SVS 4,5 collect absorption spectra from the plasma created in the WDPE gas cell on CCD

SVS: streaked visible spectrometer

WDPE hardware



Basic layout of WDPE gas cell (left)

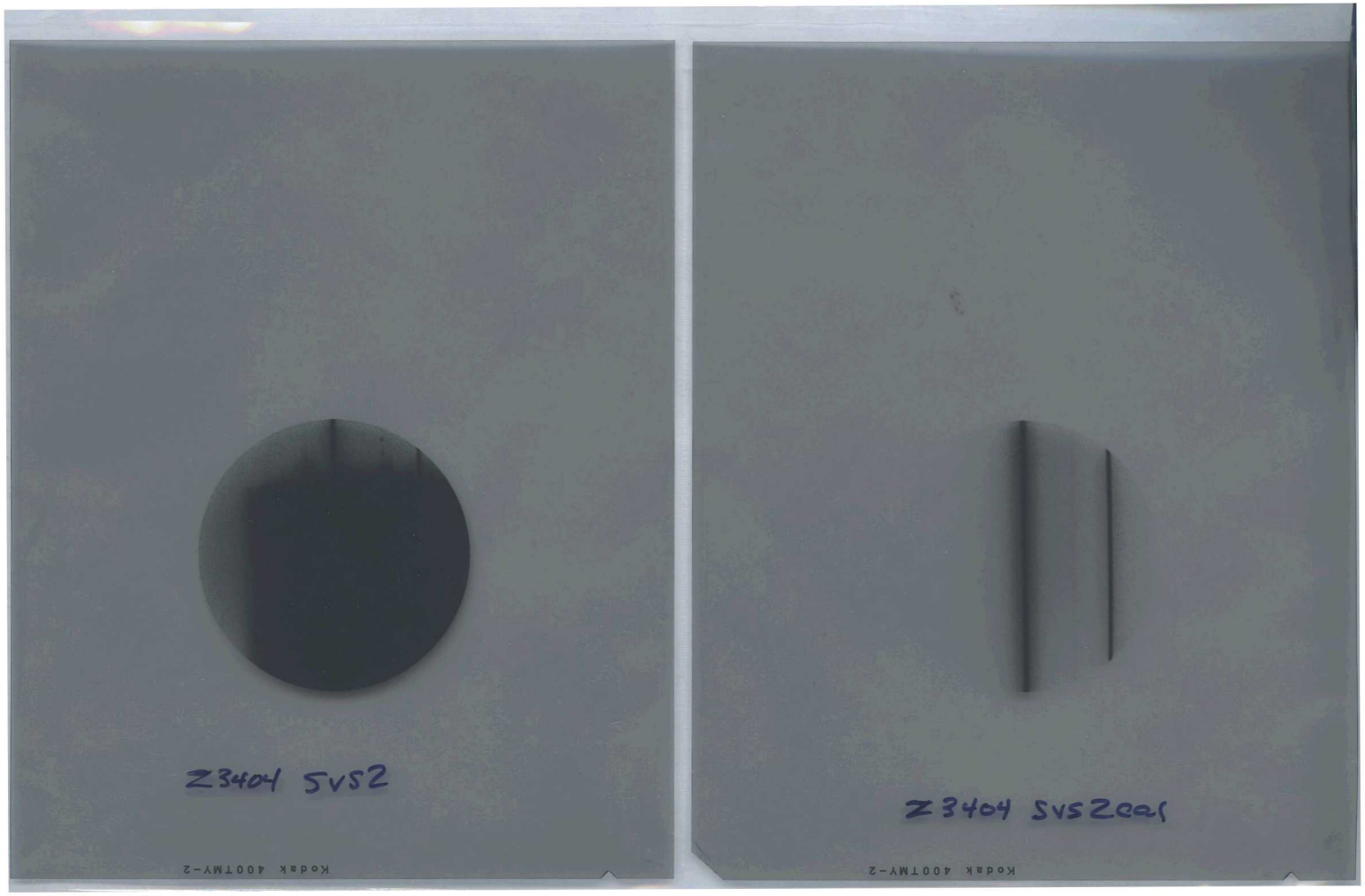
This gas cell is located outside the blast shield, about 330 mm away from the Z-pinch. The Z-pinch X-rays travel to the WDPE gas cell, heat up the gold wall, which, in turn, heats the gas contained in the gas cell body.

The WDPE collects optical emission, absorption and continuum lines-of-sight (LOS). See figure on left.

SVS1 data (emission, film, LOS 70, 300 g/mm grating)

Gas fill: 5 Torr CH_4 (methane)

SVS2 data (emission, film, LOS 70, 150 g/mm grating)



Gas fill: 5 Torr CH_4 (methane)