

Separating X-rays from CTTS in accretion and corona

-Using a model of the hot accretion spot-

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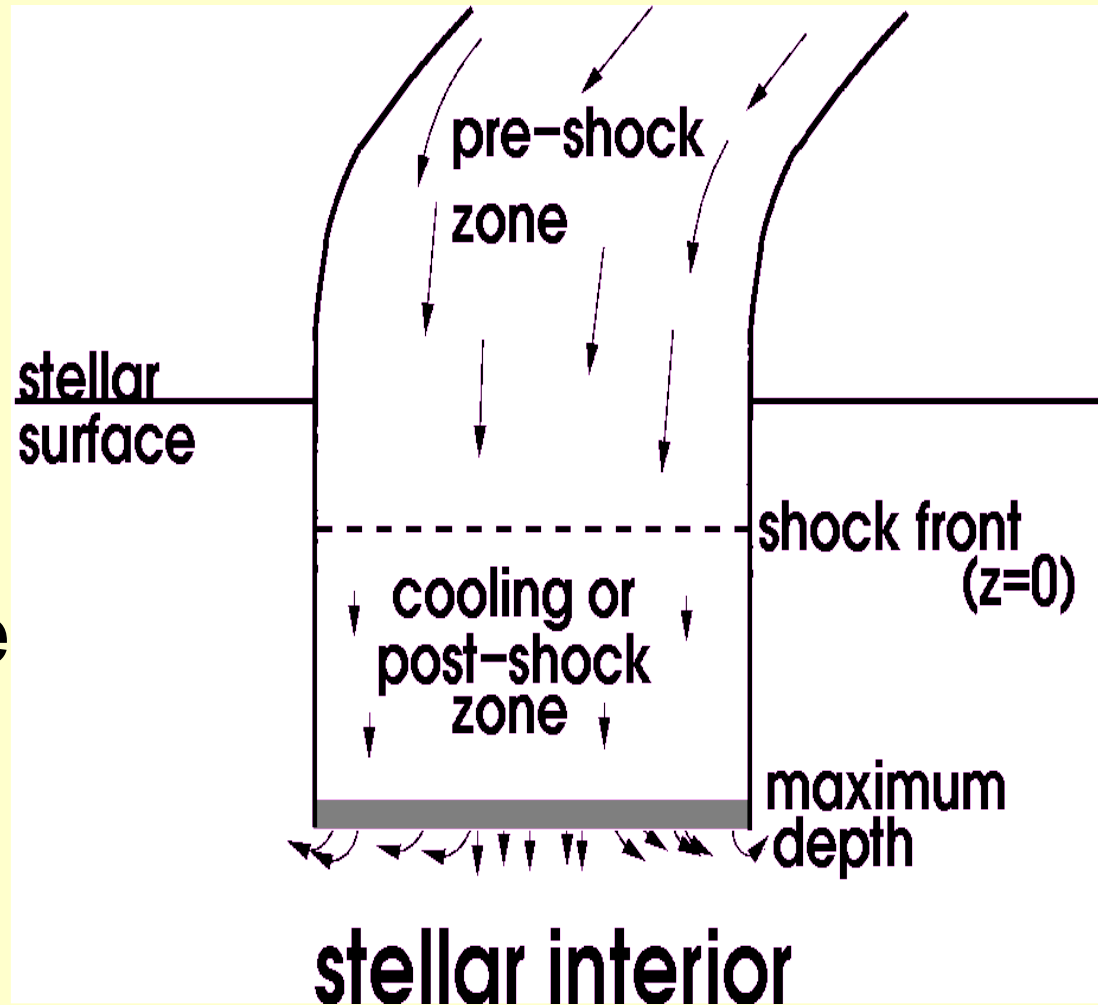


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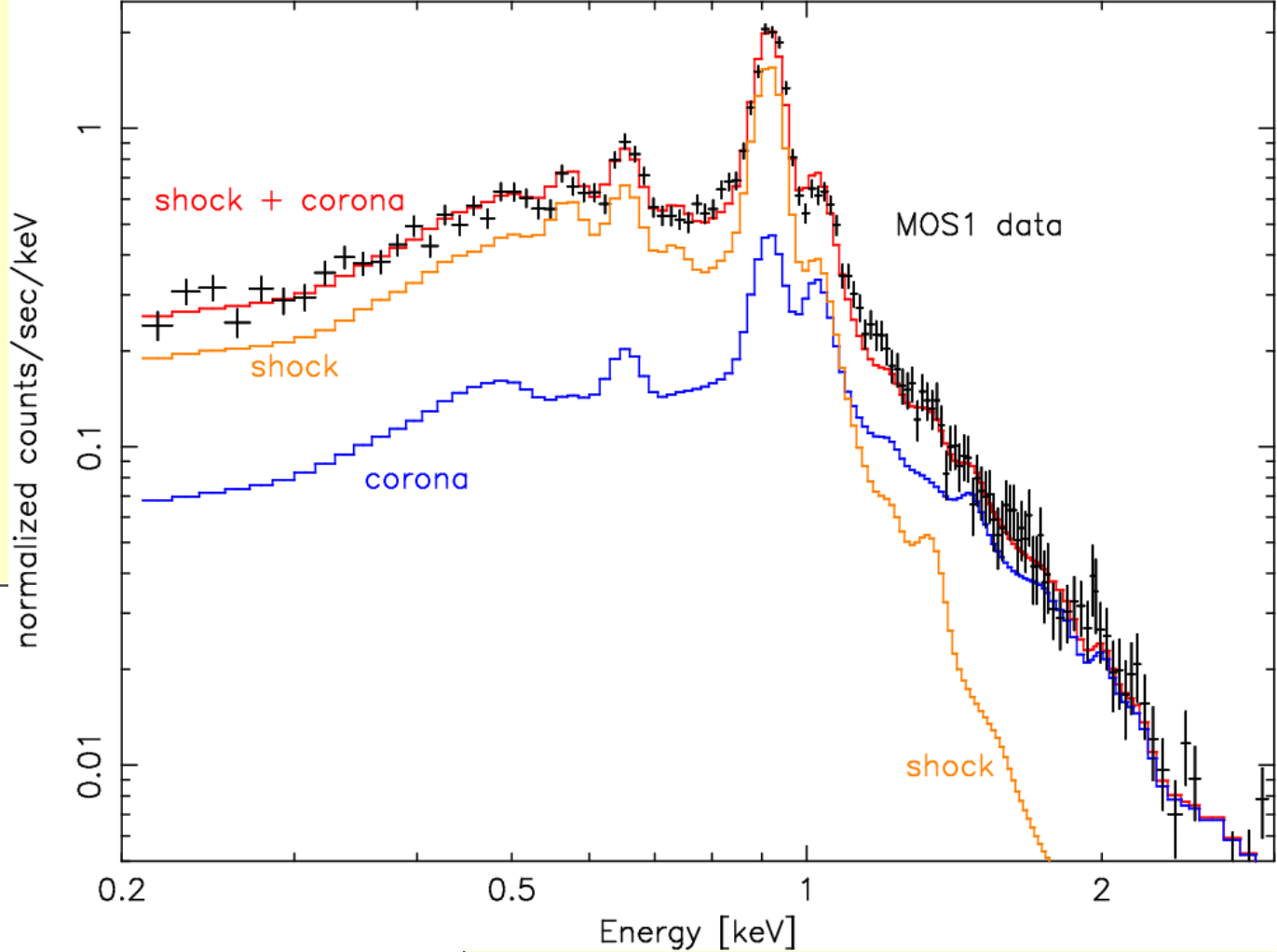
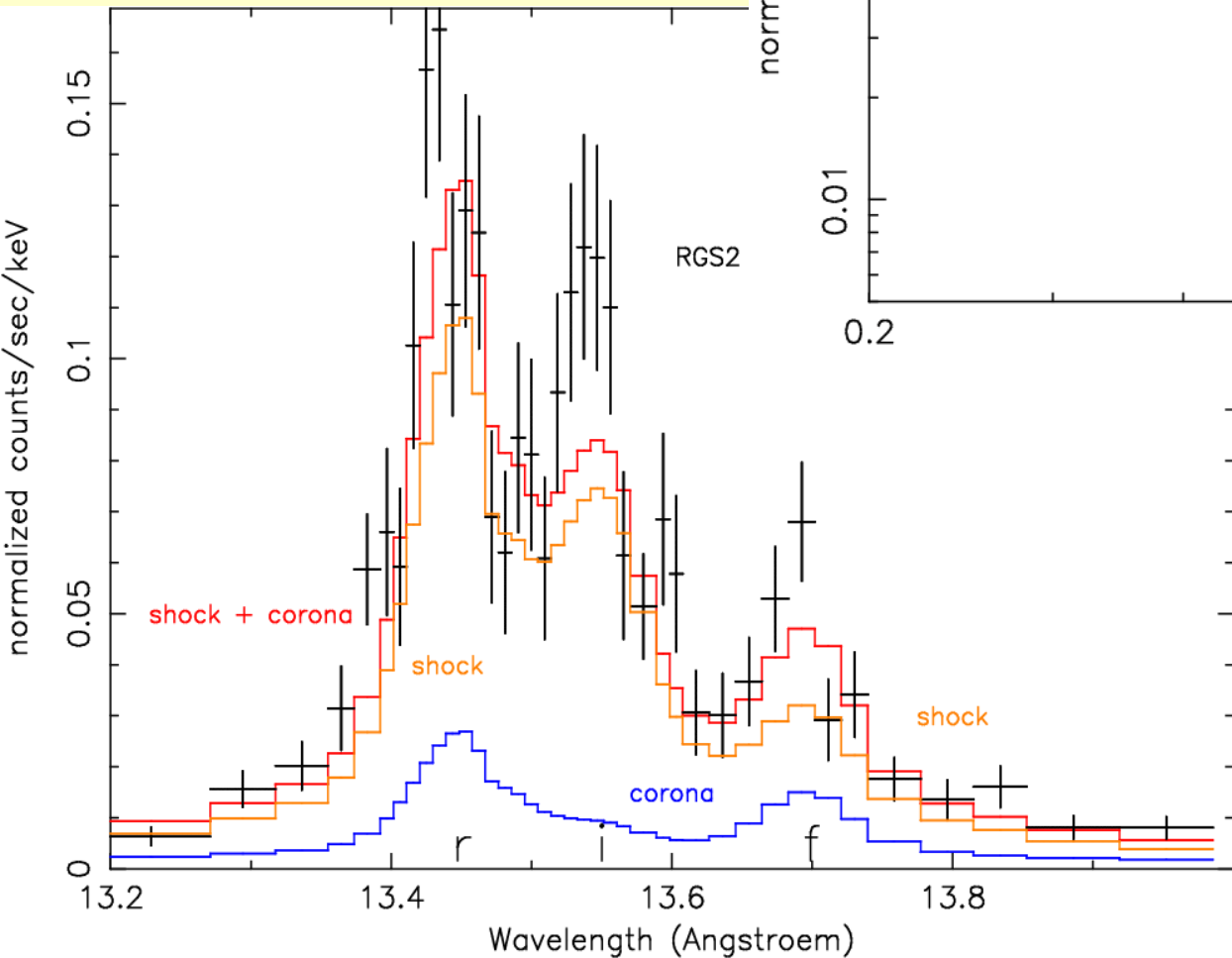


Model assumptions

- 1D stationary
- optically thin
- no heat conduction
- Maxwell distribution (different temperature for electrons / ions)
- magnetic field does not change dynamics
- non-equilibrium ionisation calculation



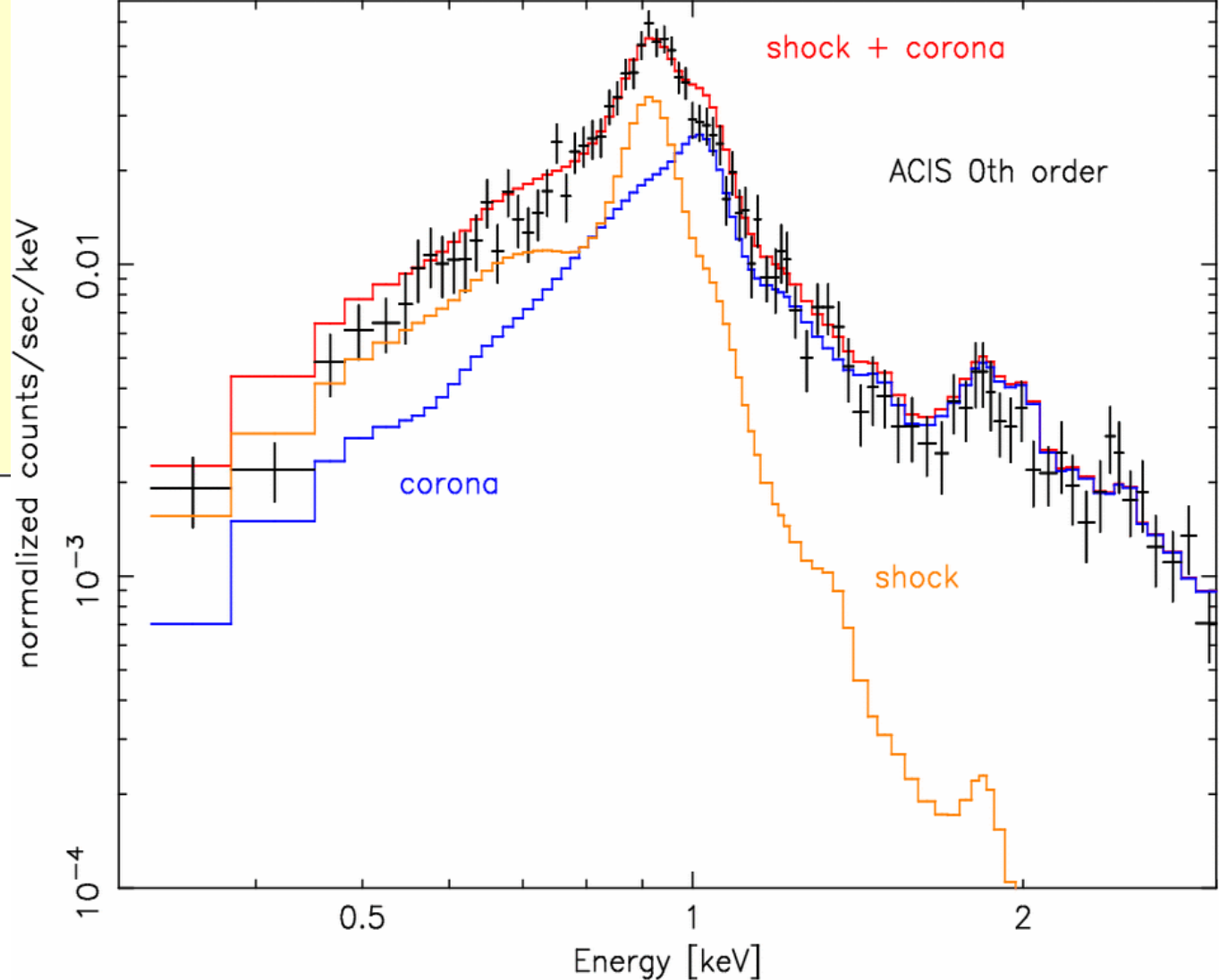
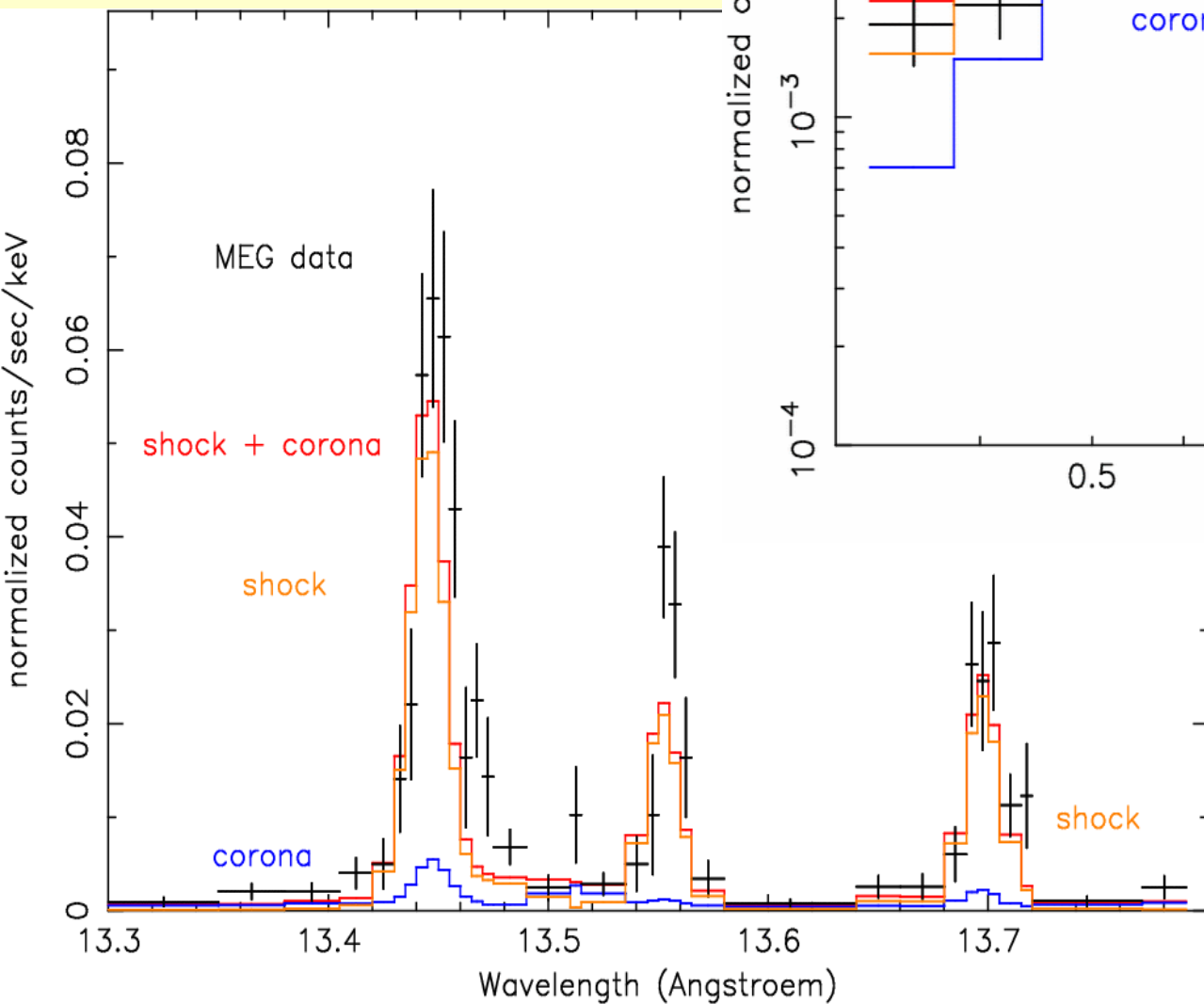
TW Hya -best studied CTTS- XMM-Newton data



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V4046 Sgr
-binary CTTS-
Chandra data



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Comparing TW Hya and V4046 Sgr

parameter	TW Hya	V4046 Sgr
infall velocity	525 km/s	540 km/s
preshock density	10^{12} /cm ³	$2 \cdot 10^{11}$ /cm ³
O abundance	0.25	0.2
Ne abundance	2.46	2.3
Fe abundance	0.19	0.3
shock flux (0.3-2.5 keV)	$3.7 \cdot 10^{-12}$ erg/s/cm ²	$1.2 \cdot 10^{-12}$ erg/s/cm ²
corona flux (0.3-2.5 keV)	$2.0 \cdot 10^{-12}$ erg/s/cm ²	$1.2 \cdot 10^{-12}$ erg/s/cm ²
filling factor	0.20%	0.10%
mass accretion rate	$2 \cdot 10^{-10}$ M _{sun} /year	$3 \cdot 10^{-11}$ M _{sun} /year
best fit reduced χ^2	1.57	1.2

