IKI/Purdue-GW follow up network

Search for EM counterparts, observations, modeling

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Optical observations: based on worldwide IKI/ISON network

Radio observations: BSA at *110 MHz*, RT-22 at *36 GHz*

Modeling: *GBM/Fermi, SPI-ACS/INTEGRAL* publically available data

Results: GW170104 - GW170825 search, GW/GRB170817A optical observations, model of the prompt emission

Shajn, 2.6m, CrAO

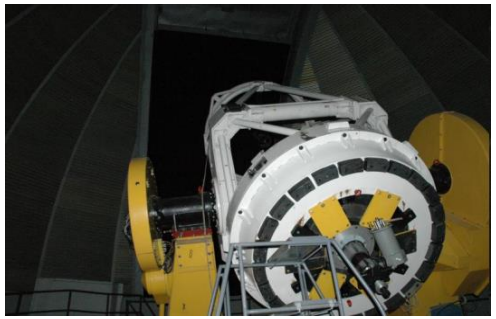
RT-22, 36 GHz,CrAO

Zeiss-2000, Terskol

AZT-22, 1.5m, Maidanak

VT-40/500 (ISON) UAFO

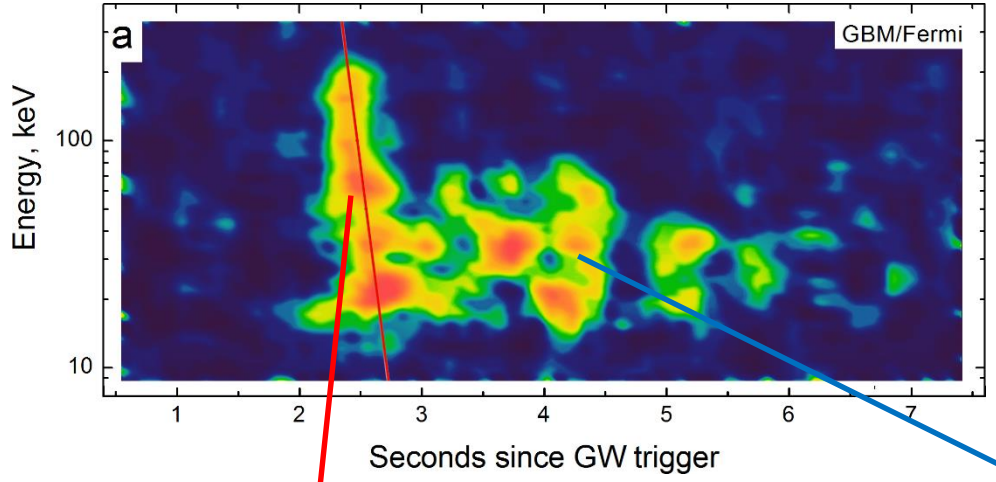
BSA, 110MHz, Pushino

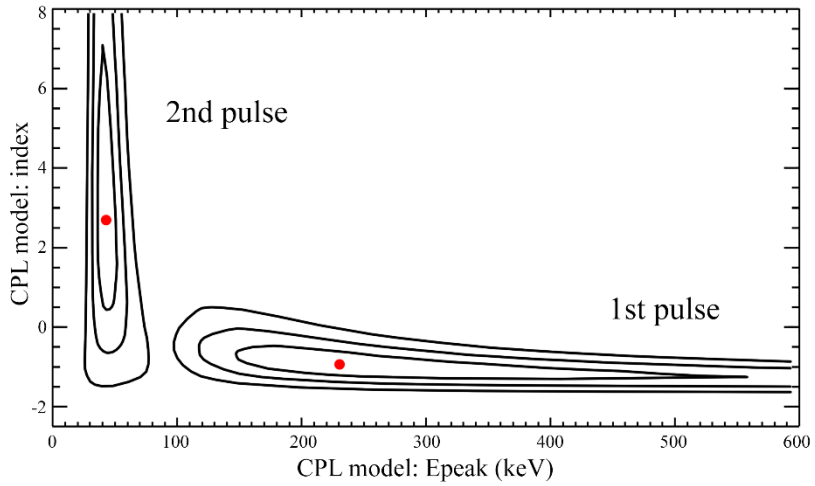


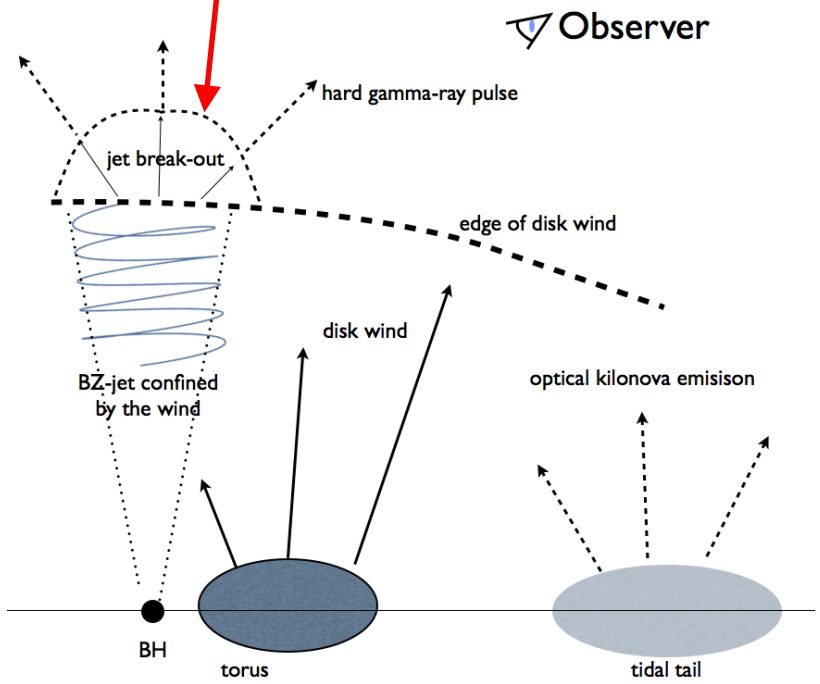
AZT-33IK, 1.6m, Mondy

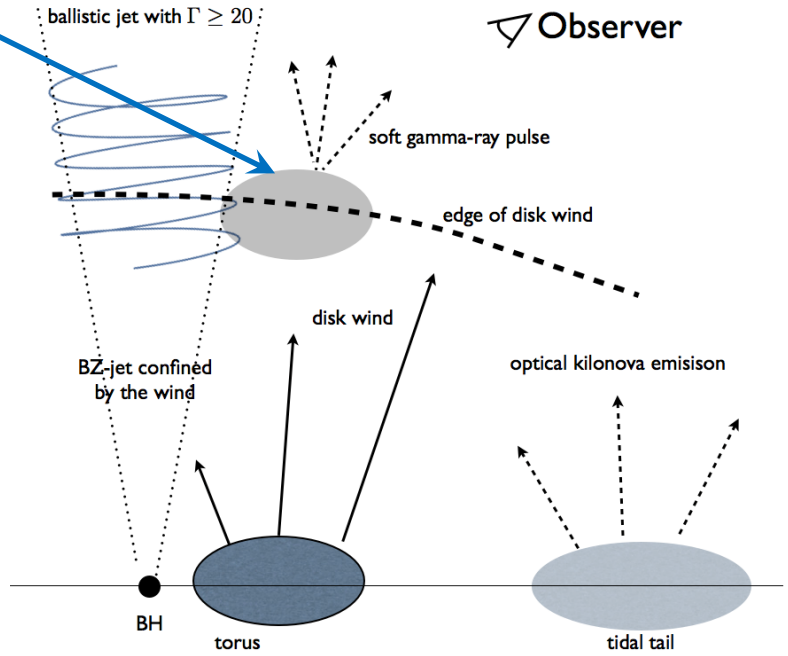
Chilescope, RC-1000, El Sauce

Pozanenko et al (2018)



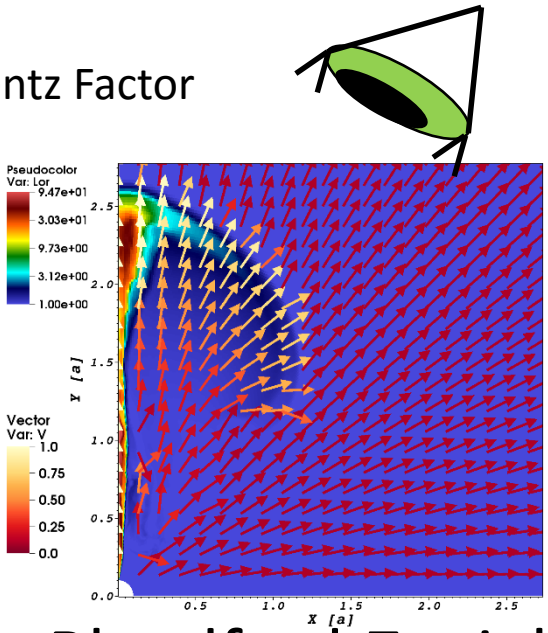




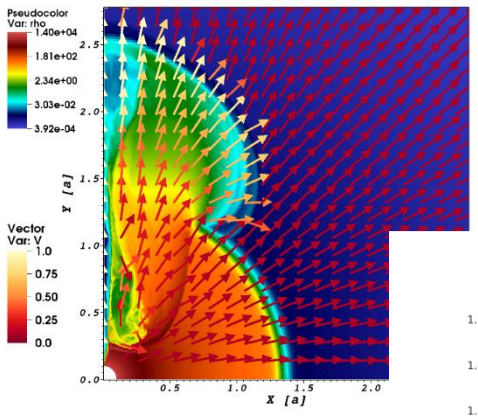


The model

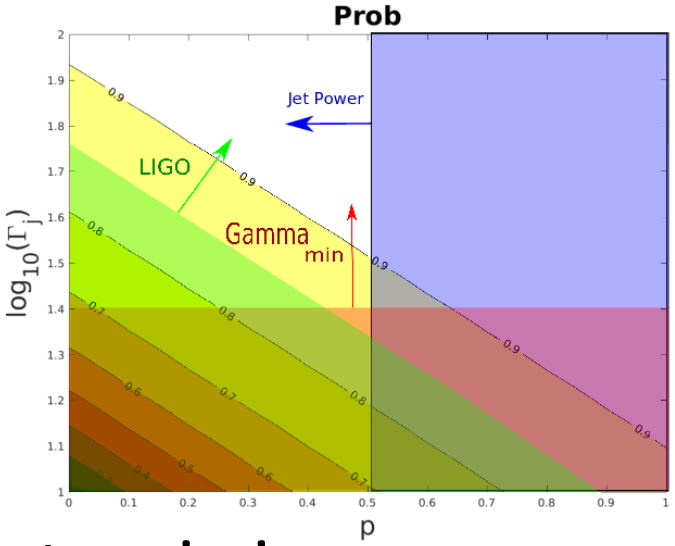
Lorentz Factor



Log Density



Pozanenko et al (2018)



- The jet is launched by Blandford-Znajek (BZ) mechanism
- Accretion rate and jet power decrease as a power low
- We see cocoon emission as a prompt (first pulse)
- Hot shocked wind forms second extended pulse of prompt emission
- Jet is long-lived but ultra relativistic, so we do not see it due to off-axis
- The observed ~2 sec lag results from both the delay of activation of BZ-jet and the jet propagation through expanding envelope