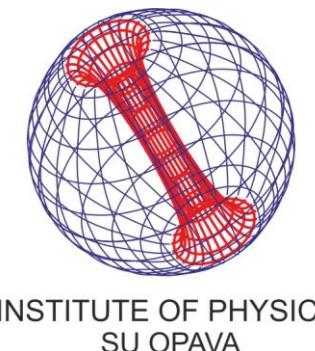


Power density spectra of modes of orbital motion in strongly curved space–time: obtaining the observable signal

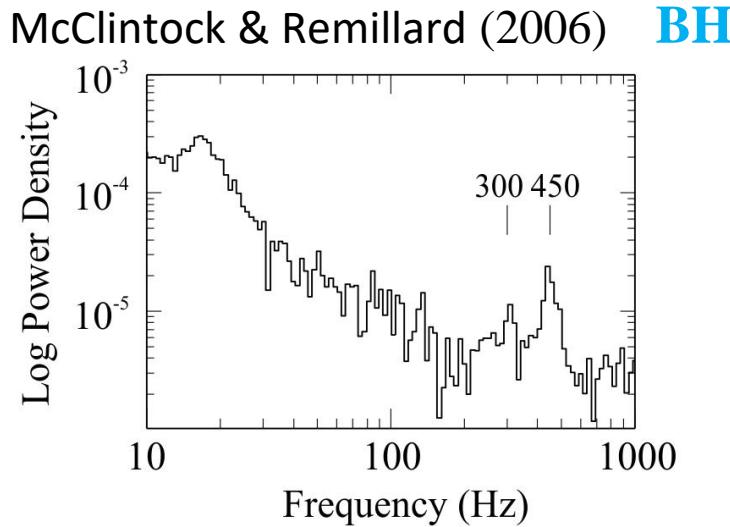
Kateřina Goluchová

Pavel Bakala, Gabriel Török, Vladimír Karas, Michal Dovčiak,
Martin Wildner, Dalibor Wzientek, Eva Šrámková,
Marek Abramowicz, Grzegorz P. Mazur, Frederic Vincent

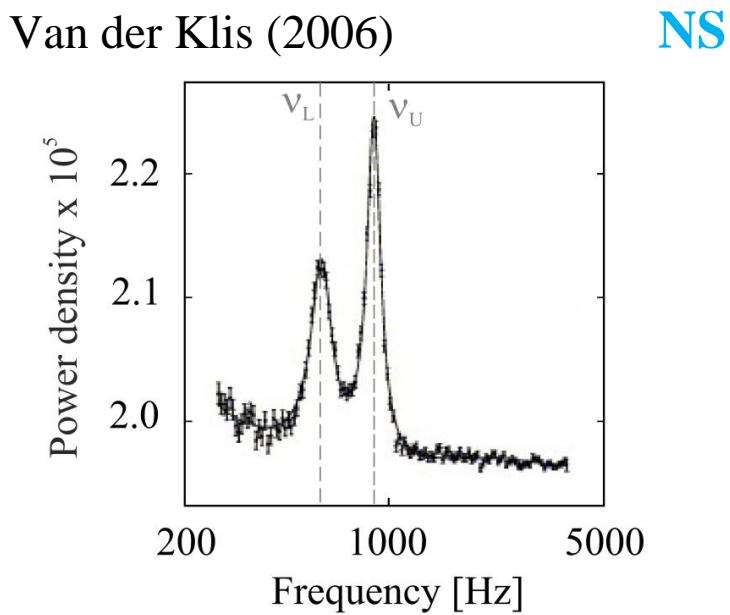
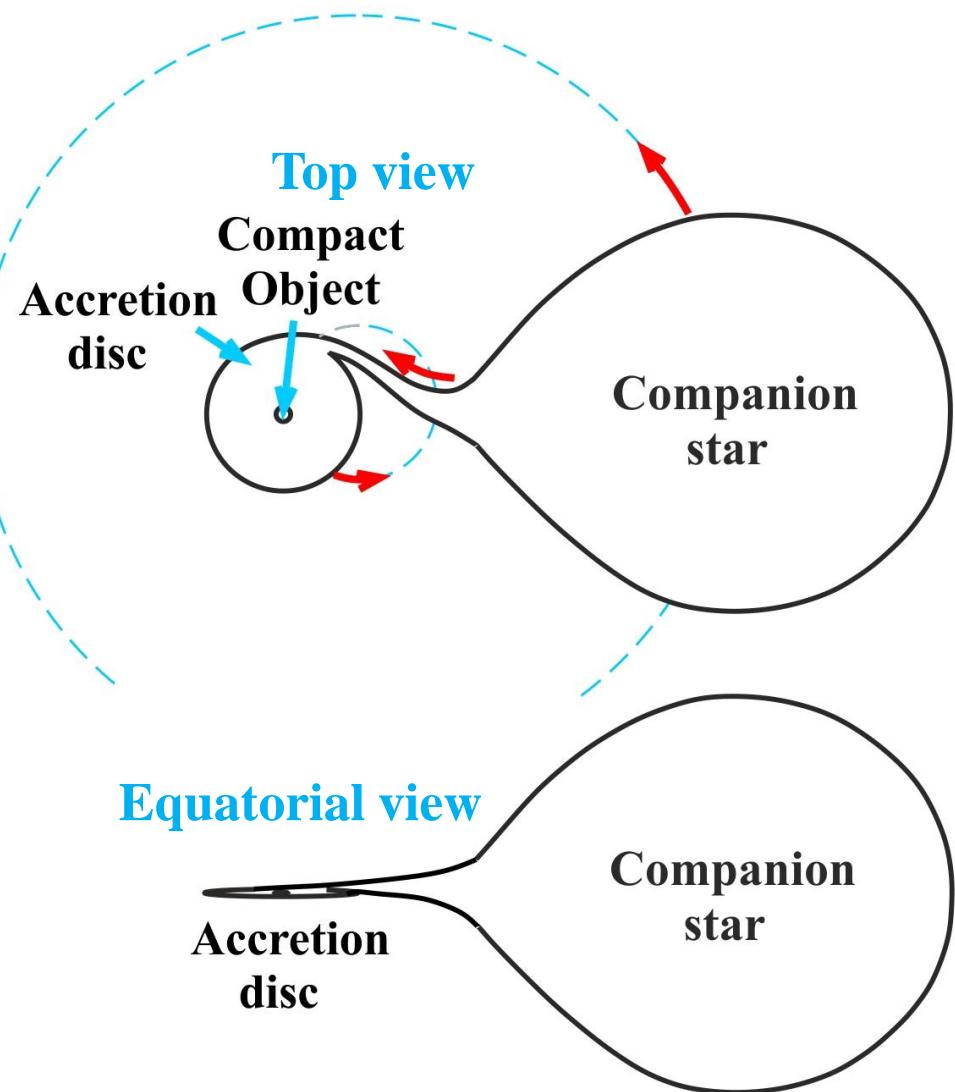


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High frequency quasi-periodic oscillations



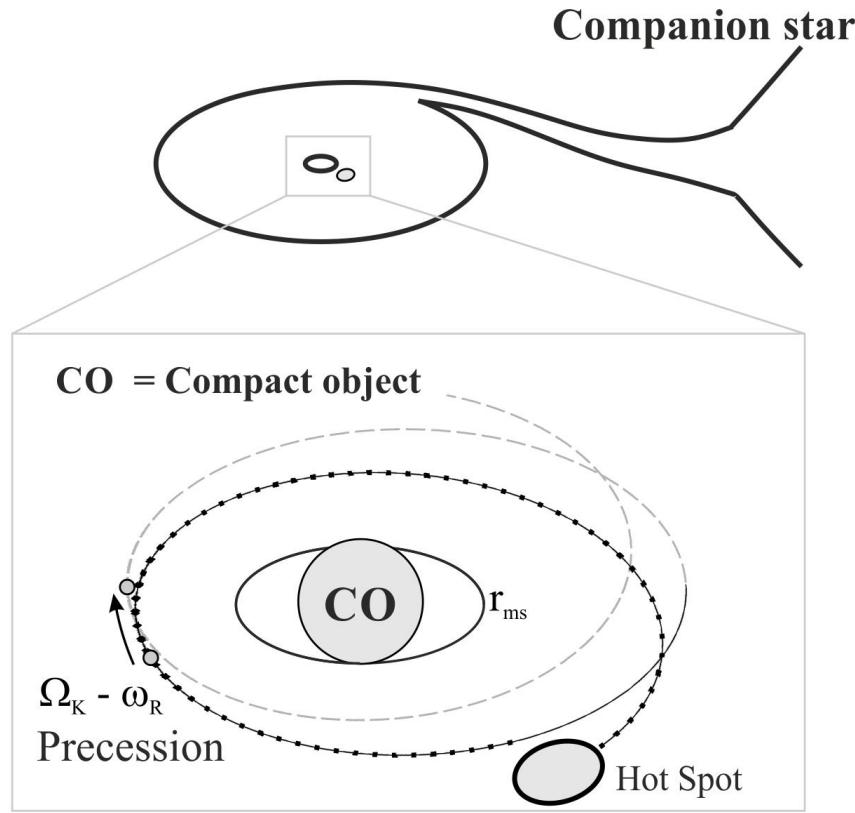
Low mass X-ray binary



Models

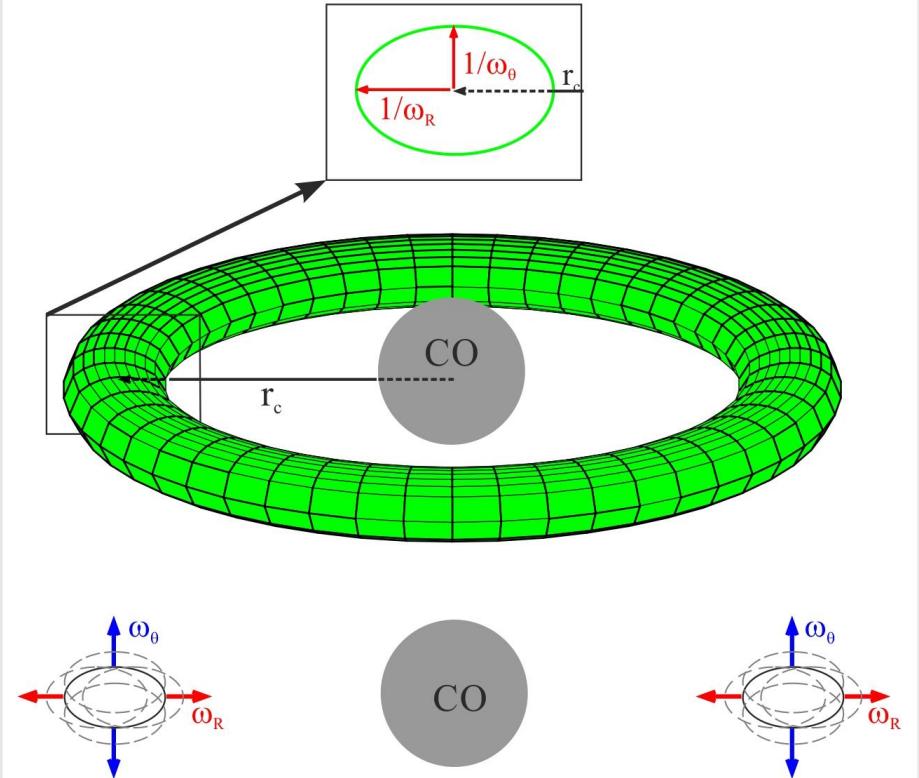
RP model

Stella & Vietri (1999)



Oscillating torus Abramowicz & Kluzniak (2001),

Bursa et al. (2004)



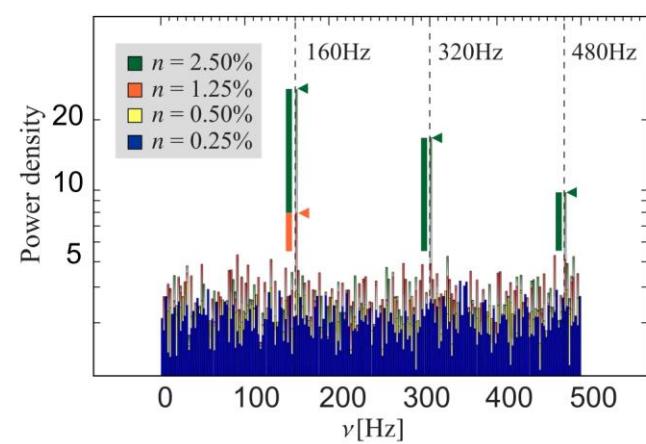
Various models:

Alpar & Shaham (1985); Lamb et al. (1985); Miller, Lamb & Psaltis (1998); Psaltis et al. (1999); Stella & Vietri (1999); Wagoner (1999); Abramowicz & Kluzniak (2001); Wagoner, Silbergbeit & Ortega-Rodriguez (2001); Titarchuk & Wood (2002); Rezzolla, Yoshida & Zanotti (2003); Bursa et al. (2004); Petri (2005); Zhang (2005); Kato (2007); Sramkova, Torkelsson & Abramowicz (2007); Stuchlik et al. (2008); Horak et al. (2009); Cadez Calvani & Kostic (2008); Mukhopadhyay (2009); Lai et al. (2012); Török (2016)

Orbiting spots (from Török et al. 2014)

GRS 1915+105

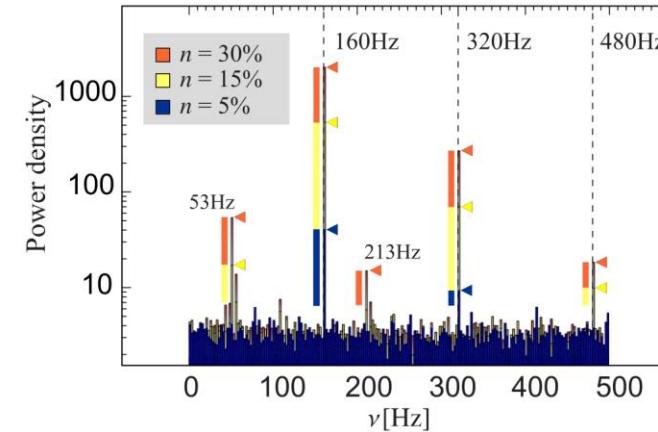
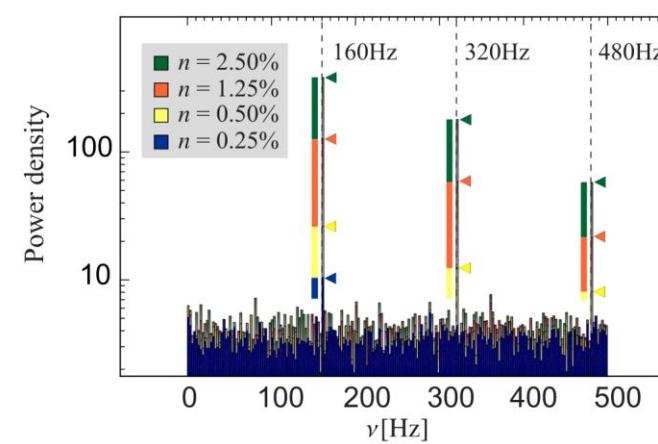
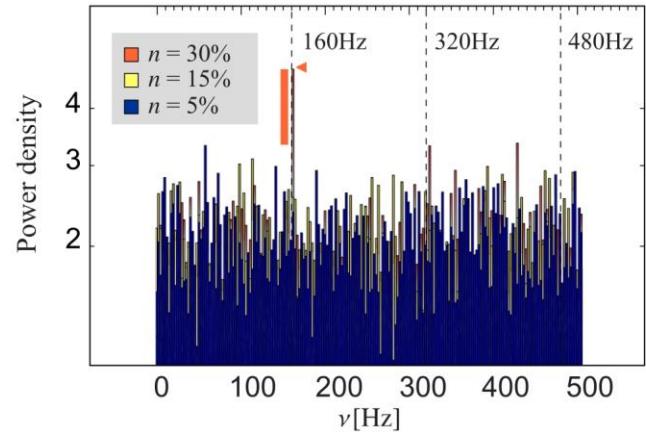
i = 80°



R = 6.75 M

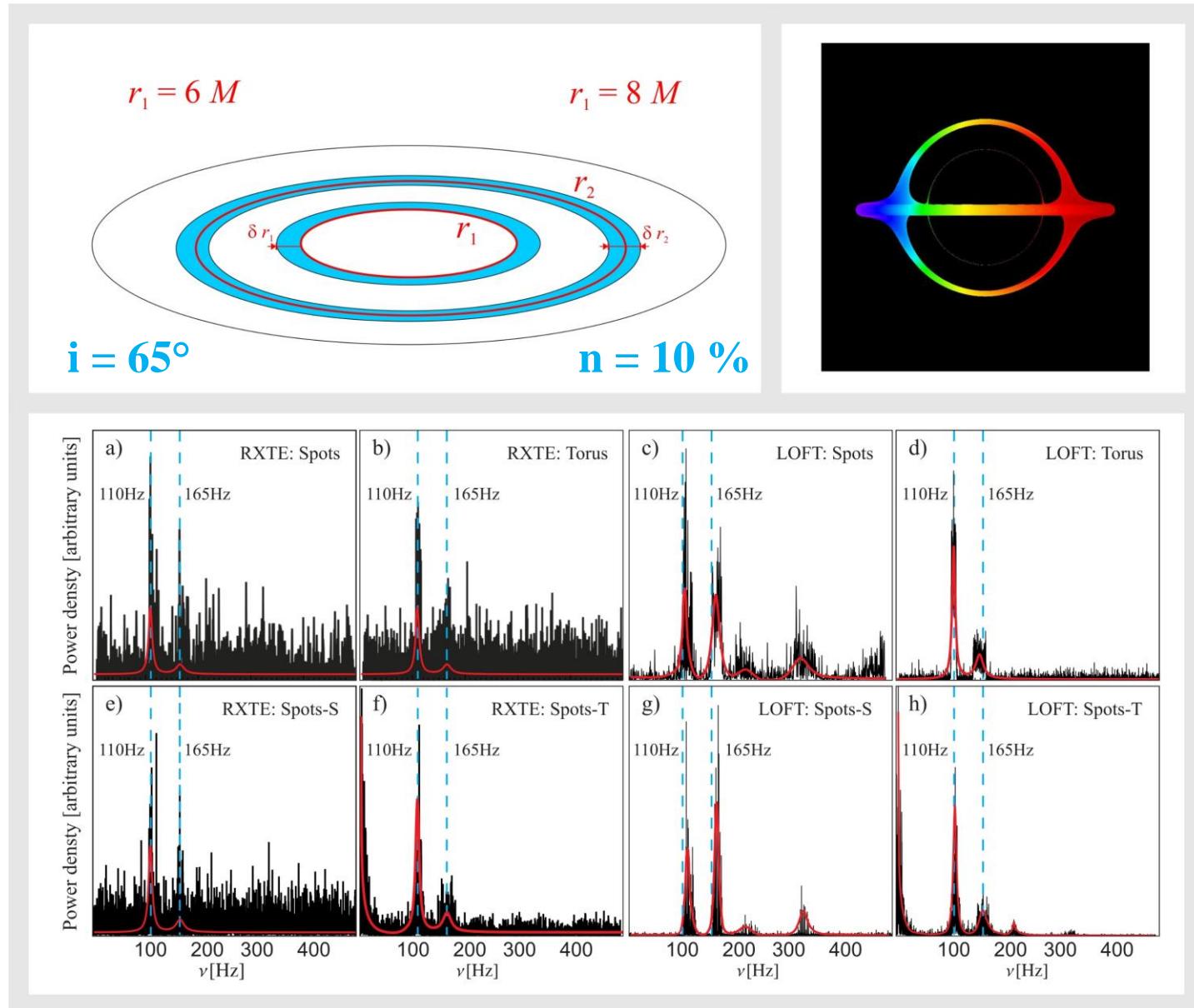
M = 11 M_\odot

i = 30°

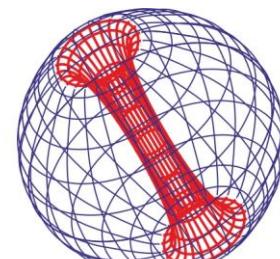


Reference: de Felice, Nobili & Calvani (1974); Cunningham (1975); Laor (1991); Karas & Bao (1992); Karas, Vokrouhlický & Polnarev (1992); Stuchlík & Bao (1992); Matt, Fabian & Ross (1993); Viergutz (1993); Zakharov (1994); Bromley, Chen & Miller (1997); Dabrowski et al. (1997); Bursa et al. (2004); Bakala et al. (2007); Vincent, Gourgoulhon & Novak (2012); Schnittman & Bertschinger (2004); Jahoda et al. (1996, 2006); Feroci et al. (2012); Dovciak, Karas & Yaqoob (2004)

Spots orbiting close to two preferred radii and oscillating torus (from Török et al. 2014)



Thank you for your attention
Děkuji vám za pozornost



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