

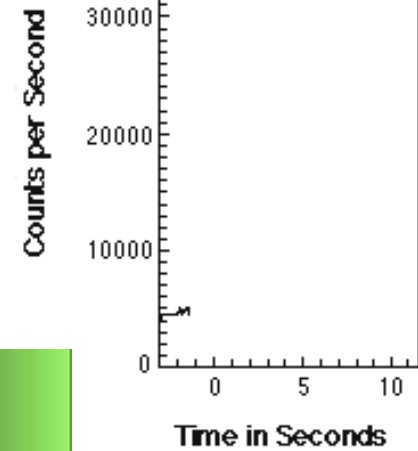
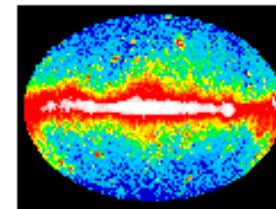
Proučevanje najmočnejših eksplozij v vesolju



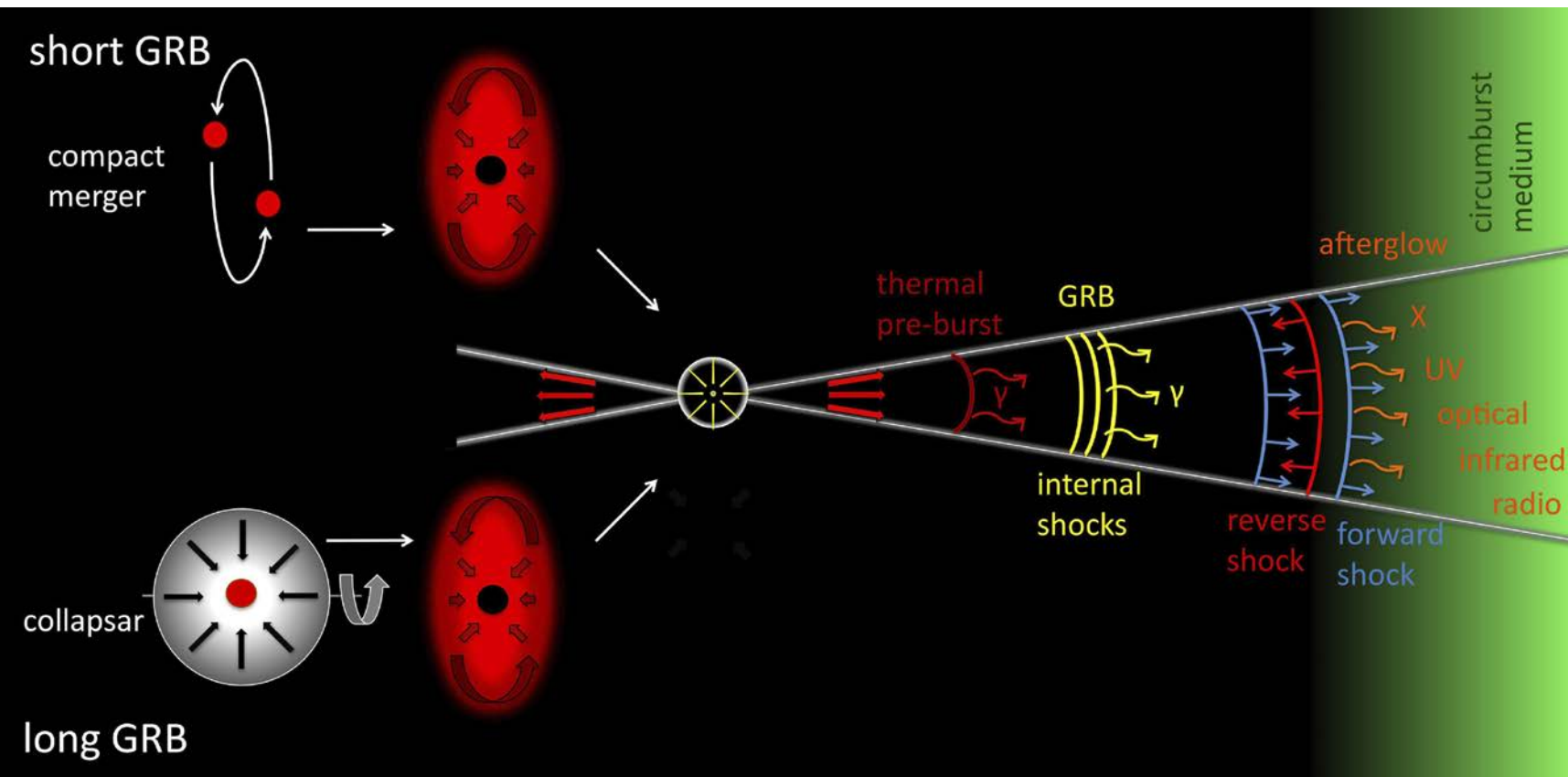
Andreja Gomboc, Drejc Kopač, Jure Japelj
Fakulteta za matematiko in fiziko UL

Izbruhi sevanja gama

- $10^{46} \text{ J} \nu 0.01 - 1000 \text{ s}$



NASA



Gomboc 2012

Optični zasiji

izbruh sevanja gama

sevanje gama

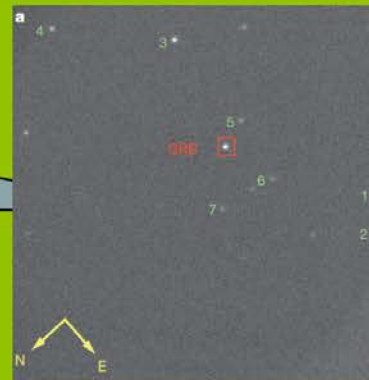
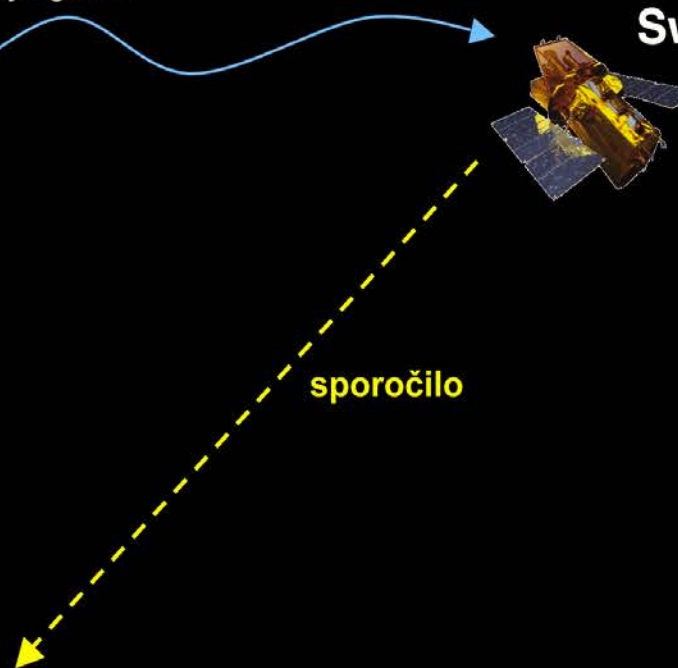
Swift

svetloba

sporočilo



teleskop Liverpool
(La Palma)



posnetek neba z RINGO2
za izbruh GRB 120308A

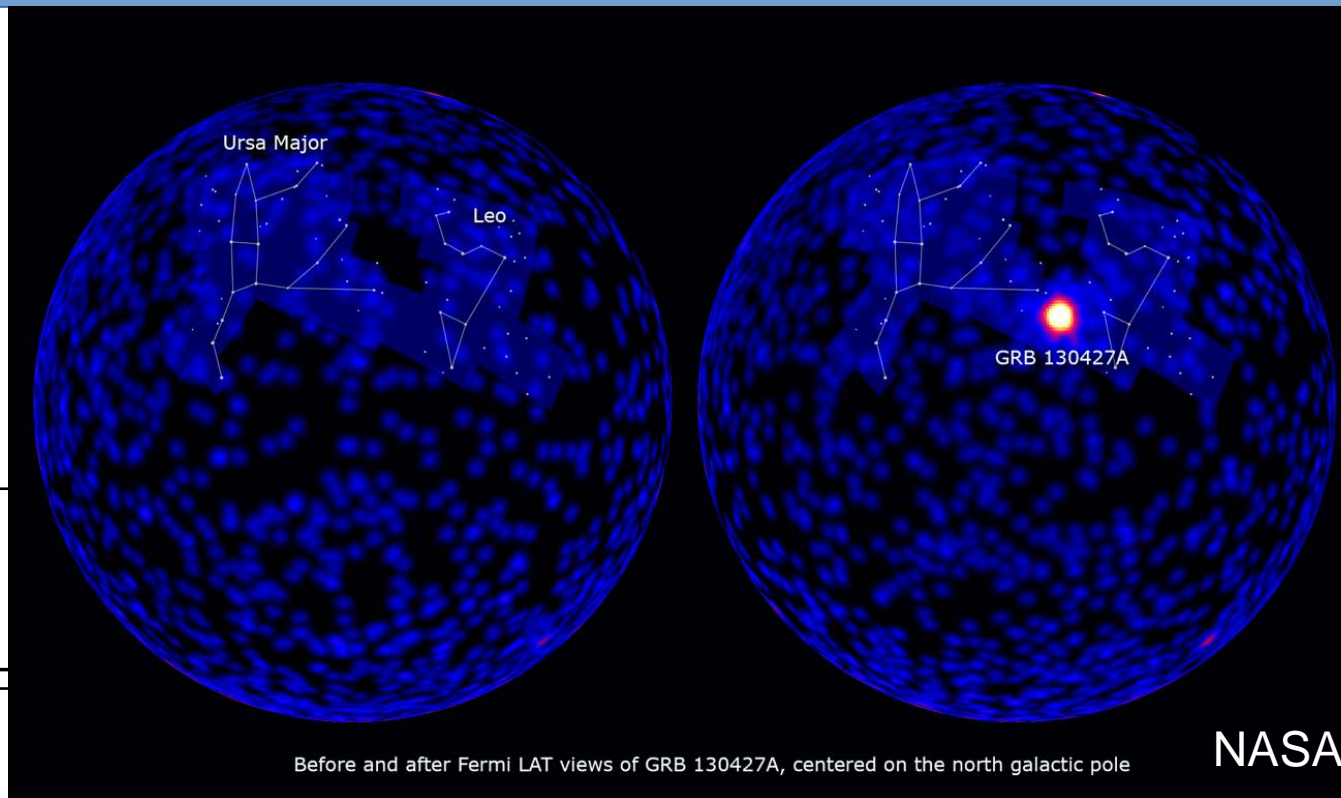


Astrophysics Research Institute,
Liverpool John Moores University,
Velika Britanija.
Fakulteta za matematiko in fiziko,
Univerza v Ljubljani,
Slovenija.

GRB 130427A

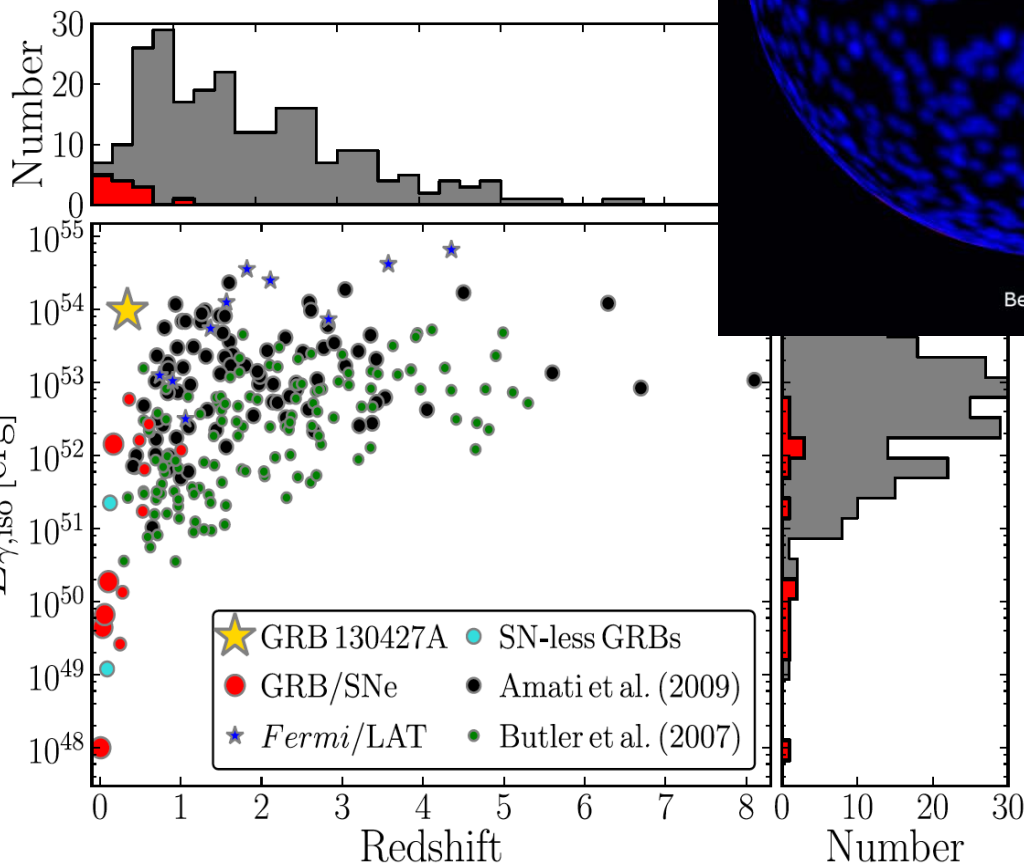
Maselli et al, Science 2014

- močne eksplozije
- vidimo daleč!



Before and after Fermi LAT views of GRB 130427A, centered on the north galactic pole

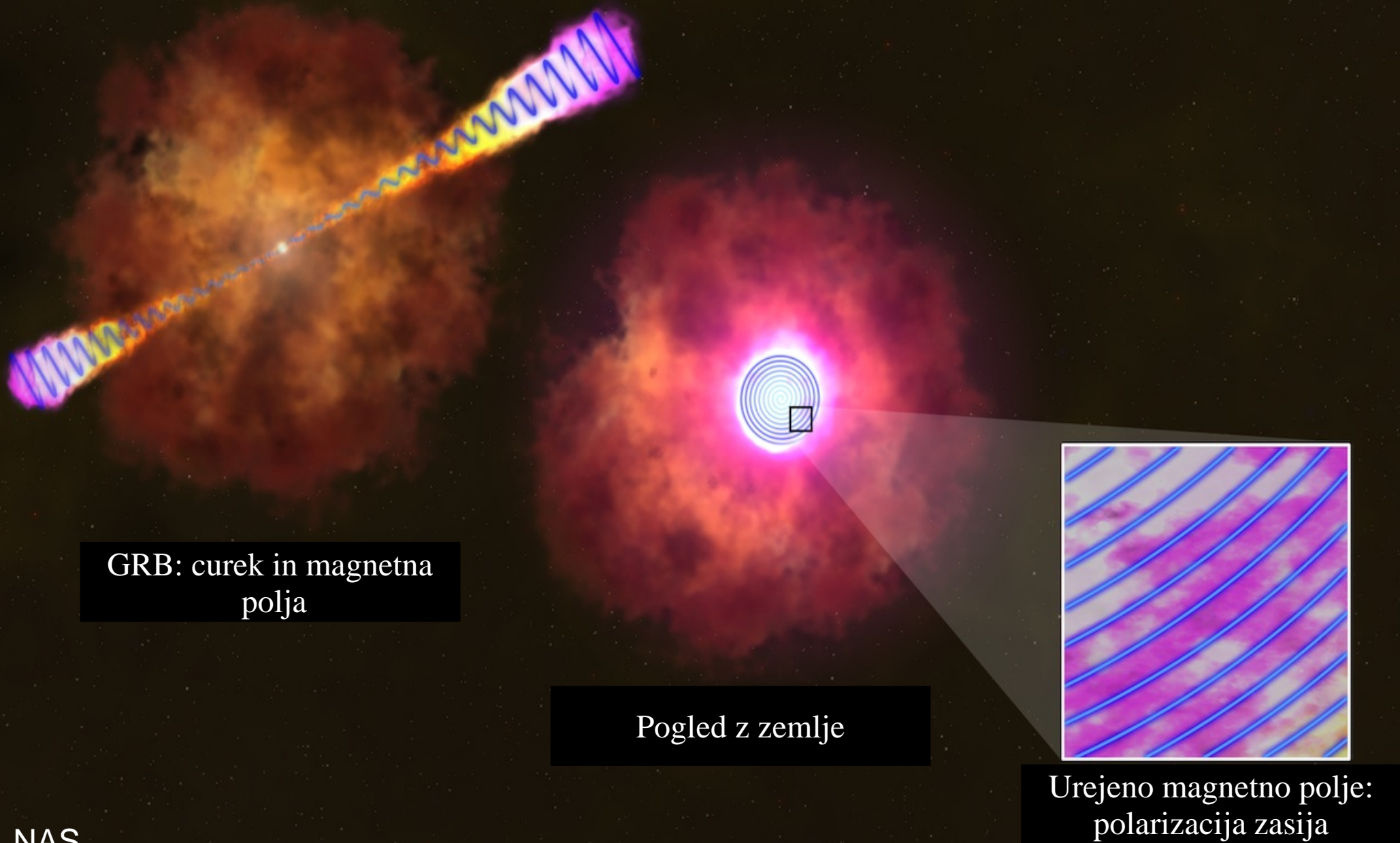
NASA



- Pogled v preteklost: sprememba s starostjo vesolja?

GRB 120308A

Mundell, Kopač et al., Nature 2013



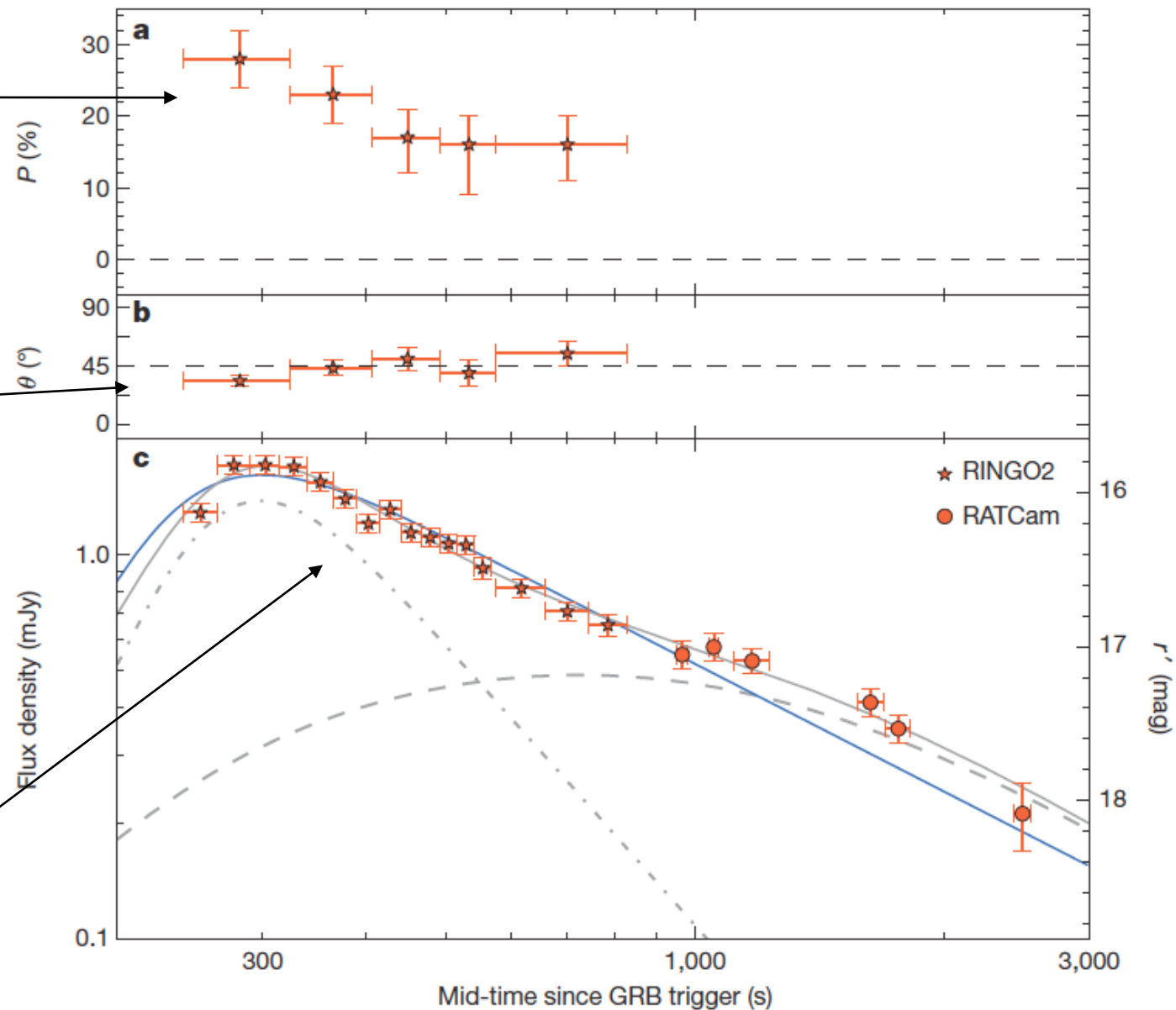
GRB 120308A

Mundell, Kopač et al., Nature 2013

linearna
polarizacija

kot
polarizacije

zasij



Pozna opazovanja



Very Large Telescope / Zelo velik teleskop
Observatorij Paranal, Evropski južni observatorij, Čile

GRB 121024A

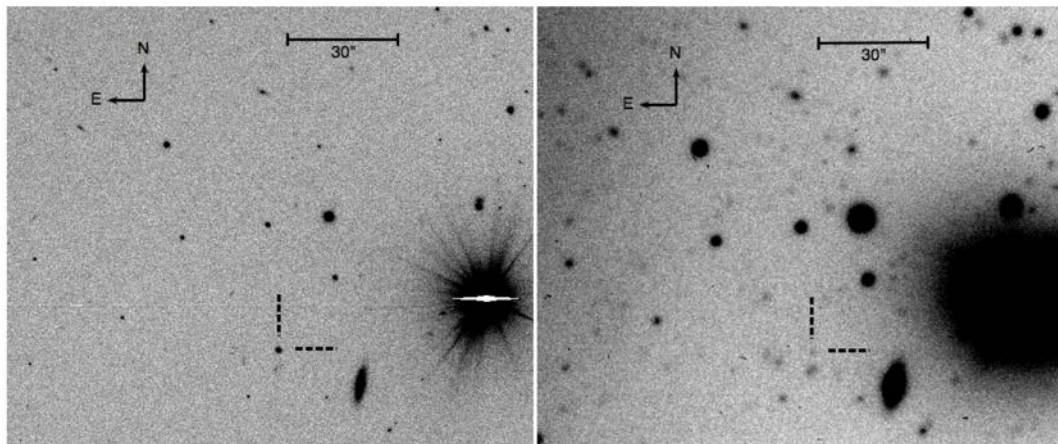
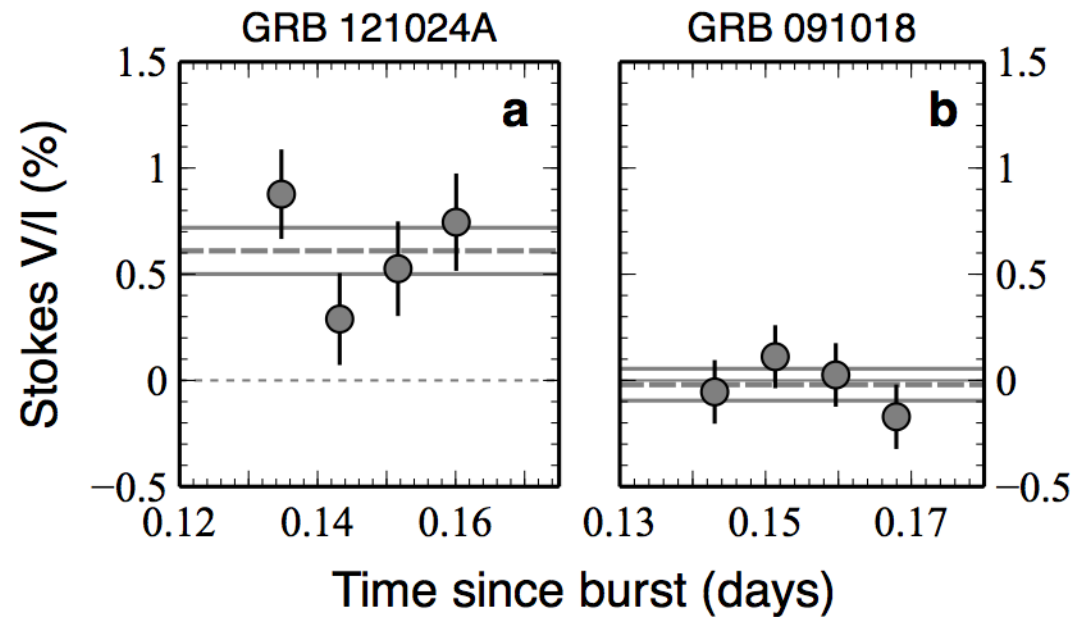
Wiersema et al., Nature 2014

Detekcija cirkularne polarizacije!

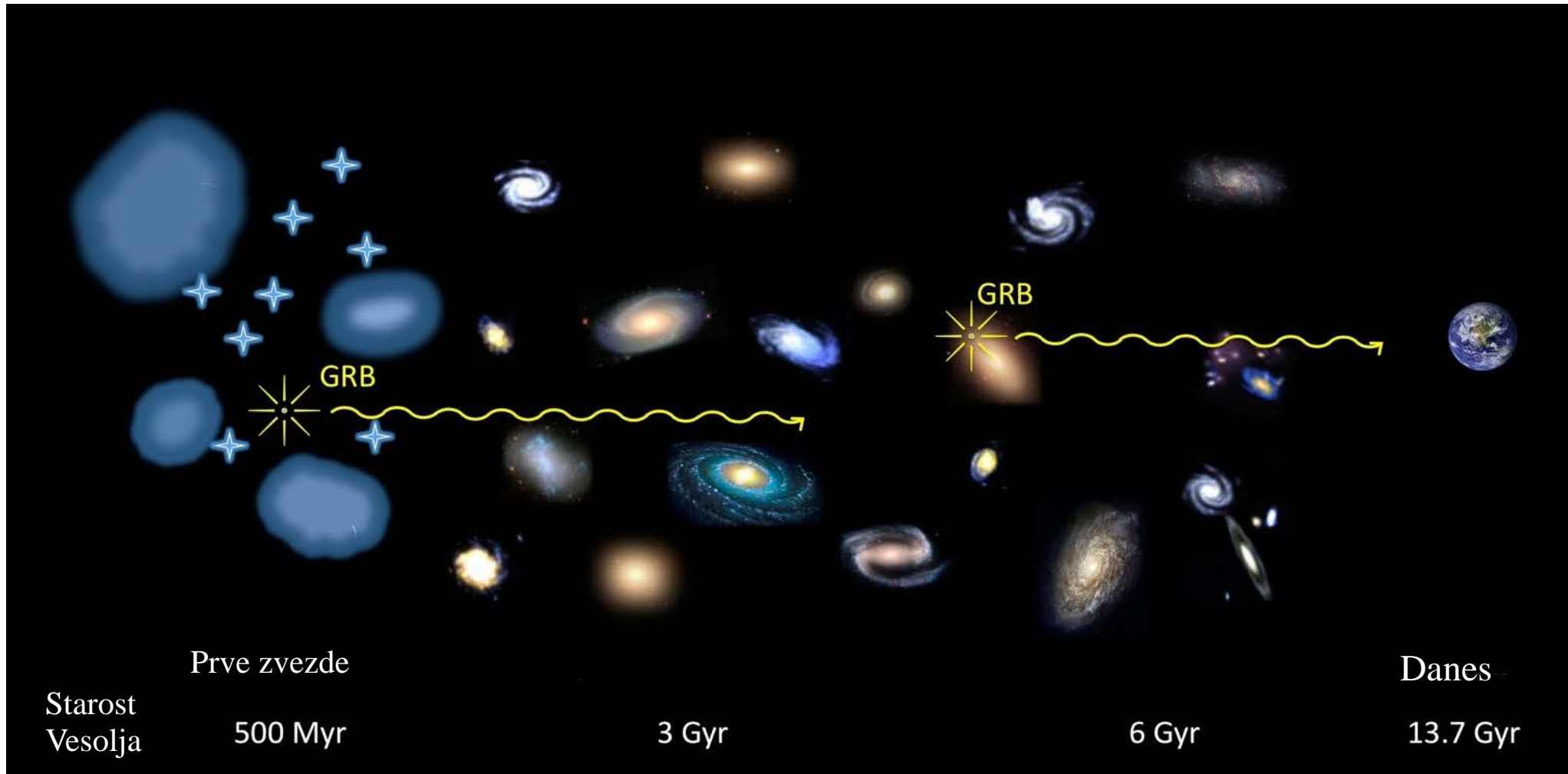
$P_{\text{lin}} \approx 4\%$

$P_{\text{circ}} = 0.61\% \pm 0.13\%$

$P_{\text{circ}}/P_{\text{lin}} \approx 0.15 > \sim 10^{-4}$



Pomen za astronomijo in fiziko



Gomboc 2012