

Temat: Your manuscript DQ12278 Krasinski

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Data: 2018-05-09 19:18

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Re: DQ12278

Short-lived flashes of gamma radiation in a quasispherical Szekeres metric  
by Andrzej Krasinski

Dear Professor Krasinski,

The above manuscript has been reviewed by one of our referees. Comments from the report of the referee appear below for your consideration.

The referee says that the overlap with the previous paper, DD12236, is excessive and must be removed. We concur. The referee has also provided a list of instances where this has occurred. We append this list.

Yours sincerely,

Rashmi Ray

Associate Editor

Physical Review D

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Report of the Referee – DQ12278/Krasinski

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The studies of gamma-ray bursts (GRBs) were initiated more than 50 years ago. Although after a half of a century of research many questions remain unanswered (i.e. the mechanism that converts energy into GRBs is poorly understood), the general picture is known. There exists strong evidence that long GRBs may be associated with death of massive stars. Moreover, the recent multi-messenger detection of a GRB and the gravitational wave GW170714 confirmed that at least some short GRBs are produced in neutron stars collisions.

Some time ago (six papers ago), the author of the paper under investigation, proposed alternative mechanism for production of GRBs: cosmological inhomogeneities blueshift hydrogen radiation at the end of the last scattering epoch. In principle, this exotic model does not have to be in contradiction with accumulated knowledge on progenitors of GRBs. Hypothetically, it may explain origins of an (unidentified yet) population of GRBs. However, in my opinion, there is a logical fallacy in the presented approach.

The model is build (and strive!) to reconstruct known observations at the preliminary level. The author do not mention any new testable predictions. The duration of GRBs which followed from the previous work on this model did not fit observations, thus the author enriched the model in the last paper to match the data. The one more inhomogeneous interaction region with appropriate density profile has been added on the way of the GRB. The model resembles a baroque construction with particular elements carefully chosen to match basic properties of GRBs. The proof that it does not contradict our knowledge has been left for further studies, e.g. the known spectroscopic properties of the afterglows cannot be explained in this model. If the model creates more problems than it solves, it is very unlikely to be true.

Finally, one should mention that the big part of the paper (including figures) is a ‘copy and paste’ from the previous author’s article Phys. Rev. D 97, 064047 (2018).

I do not recommend this paper for publication.

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Correspondence from referee – DQ12278/Krasinski

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Dear Rashmi Ray,

Please compare the manuscript under investigation (A) and Phys. Rev. D 97, 064047 (B).

Equations (A) ↔ (B)

2.1 ↔ 2.1

2.2 ↔ 2.2

2.3 ↔ 2.3

2.4 ↔ 2.4

2.5 ↔ 2.5

2.6 ↔ 2.6

(2.7,2.8) ↔ (2.7,2.8)

2.9 ↔ 2.9

2.10 ↔ (2.8,2.10)

2.12 ↔ 3.1

2.13 ↔ 3.2

2.14 ↔ 3.3

2.15 ↔ 3.4

2.16 ↔ 3.5

2.17 ↔ 3.6

2.19 ↔ 3.7

2.20 ↔ 3.8

2.21 ↔ 3.9

2.22 ↔ 3.11

2.23 ↔ 3.14

(2.13,2.25) ↔ 4.1

2.26 ↔ 4.3

2.27 ↔ 4.4

3.1 ↔ 5.1

3.2 ↔ 4.2

3.3 ↔ 5.3

(3.4,3.5) ↔ 5.4

3.6 ↔ 5.5

3.7 ↔ 5.6

3.8 ↔ 5.7

3.9 ↔ 5.8

3.10 ↔ 5.9

3.11 ↔ 5.10

3.12 ↔ 5.11

3.13 ↔ 5.13

3.14 ↔ 6.1

3.15 ↔ 6.2

3.16 ↔ 6.3

3.17 ↔ 6.4

3.19 ↔ 6.5

3.20 ↔ 6.6

4.1 ↔ 7.1

4.2 ↔ 7.2

4.3 ↔ 7.7

4.4 ↔ 7.6

4.5 ↔ 7.8

4.6 ↔ 7.9

5.7 ↔ 8.10

The sentences between these equations has been reformulated (some of them are simply ‘copied and pasted’), but they have the same meaning.

Figures (A) ↔ (B)

1 ↔ 1 (the same caption)

2 ↔ 2 (small differences)

Of course, there are also new results in the paper under investigation (the definition of the model was repeated). I agree that it is convenient for a reader if the paper is ‘self-contained’, but sometimes repetition of material goes beyond my imagination. Please compare (A) and (B) also with Phys. Review D 94, 023515 (2016).