REPLY TO REFEREE

What my GRB papers discuss is not only a proposed model of a source of a gamma-ray burst (GRB). Their primary aim is to test a hitherto unknown prediction of general relativity against the existing observational material on the GRBs. So, the first objection of the referee, "The author do not mention any new testable predictions", is misdirected. By now, I am reconciling the models with GRB observations, gradually improving them in one paper after another. The present paper presents one possible solution to the problem of duration of the GRBs - in previous papers the implied durations were too long. Time may come for "new testable predictions", but it is unrealistic and unfair to demand that a single paper solves all problems.

The referee says further "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." This statement misrepresents my paper. The single yet unsolved basic problem is the duration of the afterglows (I already have an idea how to tackle it, but this will require an extended investigation). So, "creates more problems than it solves" is an exaggeration. Moreover, if a paper is prevented from publication just because a referee feels that "it is very unlikely to be true", then a vicious circle is created: the consequences of the paper cannot be tested because it is not published, but it cannot be published because the (expected - yet unknown) consequences look incredible to a single person. "Unlikely to be true", without solid arguments, is not a valid justification for rejection.

The referee did not verify the paper's physical and mathematical correctness. He only formulated some vague general objections (mostly mistaken - see below), without references to specific parts of the paper, and performed a routine pattern-comparison using an electronic text comparator. This resulted in detecting some overlap with an earlier text, which he announced as my major offence. His description of the size of the repeated part and of its proportion in the whole text is greatly exaggerated - see below.

I had myself written (in Sec. I, para 3): "Sections II - IV are partly repeated after Ref. [3]". The repetition (with abbreviations and modifications) was meant to make the present paper readable without multiple pointers to formulae in Ref. [3]. The repeated text was contained in less than 4 pages out of 18 (now, after revision, in 3 pages). I could of course replace these 4 pages with the sentence "The reader is asked to have a copy of Ref. [3] at hand when reading this paper", and replace all references to eqs. (2.1) - (4.6) with references to the corresponding formulae in paper [3]. In my opinion, such shortening of the paper is not worth the burden imposed on the reader. The fact that the referee saw no use of Secs. II - IV proves that he had not read my paper - otherwise he would know why these sections are there and the "repetition of material" would not go "beyond [his] imagination".

Nevertheless, I verified which formulae in sections II to IV were not referred to later in the paper. I found that a few formulae and short bits of text could be removed without strong adverse consequences. I removed the following segments:

1. Eq. (2.3) and the text around it.
2. Eqs. (2.9) to (2.11) and the related text.
3. Eqs. (3.7) and (3.8).
4. The part of Sec. IV before eq. (4.3); I replaced it with a few lines of introduction.

5. Eqs. (4.5) - (4.6) and the related text; it was replaced by a five-line explanation.

6. Bits of text under eqs. (2.19), (2.23) and (4.2) (new numbering) and some sentences or bits of them in a few other places.

Eq. (3.6) was incorporated into text because it was used only in the immediately following set (3.7) - (3.10).

As a result of all the changes, the paper became shorter by one page. I did this revision to show my good will, but some of its consequences may be harmful. Some equations that were not referred to provided clarification of points that may not be obvious for a newcomer to the field. As a result of this shortening, the paper may have become more difficult to read.

Sections II - IV are only an introductory material. The essential part of my paper is in the remaining 6 sections and 8 appendices, but the referee did not discuss their contents in any detail.

In his zeal to brand me as a self-plagiarizing crook the referee went too far. He found that the current eq. (5.7) is a copy of the old eq. (8.10), and listed this as one of my transgressions. But this equation just displays a long and complicated number. This number is used in eq. (5.8), which is then referred to a few times later in the paper. Would it be any better to say "eq. (8.10) in Ref. [3]" instead of rewriting the number?

Contrary to what the referee implies, Fig. 2 here is NOT the same as Fig. 2 in Ref. [3]; the difference is explained in my footnote 2. The only one copied from Ref. [3] is Fig. 1. It explains the geometrical meaning of the Big Bang parameters that appear in many formulae; without it the readers would have to have paper [3] before their eyes while reading the present one. One copied figure out of 23, and four pages out of 18, all of it being only an introduction to the proper text - and the referee says "the big part of the paper (including figures) is a 'copy and paste' from the previous author's article". Is this honest refereeing?

The referee's objection that my model "resembles a baroque construction" is a misrepresentation of my work. In my 3 previous papers I assumed that the light ray reaching the present observer proceeds through a homogeneous background all the way from the edge of the source. This was an acceptable first approximation, but the real Universe is full of voids and condensations. So, the natural next step was to verify what happens when the ray encounters such a structure along its path. This is what I did in the present paper. It turned out that the intermediate structure deflects the ray by a time-dependent angle. This solved the problem of too-long durations of the gamma-ray flashes that existed in the previous papers. No fine-tuning (no "appropriate density profile") was necessary - the deflecting structure was chosen for its simplicity. (It is in fact a rotated copy of the one that generated the blueshift, but both its density profile and angle of rotation could be any other.) The whole construction is meant to be a *proof of existence* of a mechanism that shortens the GRB duration, and a single example is all that is needed for such a proof. Thus, the reprimand for "particular elements carefully chosen to match basic properties of GRBs" is a logical error, in addition to being false.

As an aside: the present paper is # 4 in the series on GRBs. I do not know where the referee's "six papers ago" comes from.

The referee said (apparently after being asked for some details by the Editor) "Of course, there are also new results in the paper", but said nothing more about them.

A serious report would spell out the new results and say whether they are correct or not, instructive or not, clearly presented or not, etc. But to be able to say all this, the referee would have to read my paper...