

This manuscript has been previously reviewed at another Nature Research journal. This document only contains reviewer comments and rebuttal letters for versions considered at Communications Physics.

REVIEWERS' COMMENTS:

Reviewer #1 (Remarks to the Author):

The authors have revised manuscript and title to more clearly emphasize the focus of their work. The concept of focusing a single VHEE beam in order to increase the dose at a target volume at a reduced dose in the entrance and exit channels is clearly discussed and convincingly demonstrated and warrants publication in Communications Physics. The relation of the work to advanced effects in radiobiology as FLASH is given and previously overstated hints to anticipated radiotherapy effects have been relaxed. Thus, major criticism has been addressed so that I am willing to support publication of the manuscript as it is.

One might add that the relation to the recently published work of the application of LWFA beams [35] could be strengthened. In principle, focusing a beam is a geometric effect as well as a multi beam application as in [35] while the practical application of both schemes has advantages and disadvantages.

I am still puzzled by sentences like "any later paper not being used for VHEE studies will be less relevant" as incoming beam parameters can well be improved for specific applications like FLASH, but anyway, this is not the main topic of the paper as it also does not discuss the effect of focusing LWFA beams in detail.