

## CORRIGENDUM TO “STABLE BLACK HOLES: IN VACUUM AND BEYOND”

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ABSTRACT. This note is a corrigendum to the paper by Elena Giorgi [Bull. Amer. Math. Soc. 60 (2023), no. 1, 1–27] pointing out a misrepresentation of the “Collapse conjecture”, which was proved by Christodoulou [*The formation of black holes in general relativity*, EMS Monographs in Mathematics, European Mathematical Society (EMS), Zürich, 2009].

In Section 3 of [3] the characterization of the mathematical problem of gravitational collapse as the “Collapse conjecture” is incorrect. The first proof of formation of closed trapped surfaces, and eventually black holes, through the focusing of incoming gravitational waves for the Einstein vacuum equation was obtained in a breakthrough result by Christodoulou [2] in 2009.

For more details about black hole formation, we refer to the survey paper by Bieri [1].

### REFERENCES

- [1] Lydia Bieri, *Black hole formation and stability: a mathematical investigation*, Bull. Amer. Math. Soc. (N.S.) **55** (2018), no. 1, 1–30, DOI 10.1090/bull/1592. MR3737208
- [2] Demetrios Christodoulou, *The formation of black holes in general relativity*, EMS Monographs in Mathematics, European Mathematical Society (EMS), Zürich, 2009, DOI 10.4171/068. MR2488976
- [3] Elena Giorgi, *Stable black holes: in vacuum and beyond*, Bull. Amer. Math. Soc. (N.S.) **60** (2023), no. 1, 1–27, DOI 10.1090/bull/1781. MR4520774

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