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Electric and magnetic fields of a charged ring in the vicinity of Kerr black hole

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Electric and magnetic fields of a charged ring located in the vicinity of Kerr black hole are computed with multipole decomposition. Lines of force of electric and of magnetic fields in the ZAMO frame are presented and analyzed for different positions of the ring and selected values of the Kerr parameter. Special attention is paid to the case when position of the ring approaches the event horizon. Astrophysical applications are discussed.

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