

Abstract Submitted  
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**The Bohm Criterion in Collisional Plasmas: Can the Controversy be solved?**<sup>1</sup> RALF PETER BRINKMANN, Ruhr University Bochum — The existence or non-existence of a collisionally modified Bohm criterion is the subject of intense discussion, with contributions by Godyak (*Phys. Lett. A* 89 80, 1982), Riemann (*J. Phys. D: Appl. Phys.* 24 493, 1991), Valentini (*Phys. Plasmas* **3** 1459, 1996), Chen (*Phys. Plasmas* **5** 804, 1997), Sternberg (*Phys. Plasmas* **9** 4427, 2002), Franklin (*J. Phys. D: Appl. Phys.* **36** 2821, 2003), Benilov (*IEEE TPS* **28** 2207, 2000), Brinkmann (*J. Phys. D: Appl. Phys.* **44**, 042002, 2011), and others. All authors agree on the fact that collisional plasmas do not obey a Bohm criterion in a strict sense, but are add odds whether (and how) such a criterion may be formulated in an approximate sense. This contribution will propose a solution to that controversy. In particular, it will show that Godyak's and Sternberg's thesis on the existence of a collisionally modified Bohm criterion (in the interpretation by Brinkmann) and Riemann's proof of its non-existence are mathematically not in contradiction: they just reflect different opinions on what constitutes a physically reasonable approximation.

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