Abstract Submitted for the DPP19 Meeting of The American Physical Society

**Proton-boron-11 fusion revisited** BIN CHEN, YANG LI, HUASHENG XIE, YUANKAI PENG, BING LIU, ENN Science and Technology Development Co., Ltd., Langfang 065001, China, DIETER HOFFMANN, School of Science, Xi’an Jiaotong University, Xi’an, China; Institut für Kernphysik, Technische Universität Darmstadt, Germany, SCHOOL OF SCIENCE, XI’AN JIAOTONG UNIVERSITY COLLABORATION, PKU COLLABORATION, INSTITUTE OF MODERN PHYSICS, CAS COLLABORATION — We revisit the proton-boron-11 (p-B11) nuclear fusion for igniting and sustaining an idealized fusion reactor. The large radiation loss due to electron bremsstrahlung introduces a formidable challenge against harvesting net power in thermalized p-B11 plasmas. However, the recent measurement of the p-B11 cross section provides a new hope. We show that ignition and scientific breakeven can be achieved with the new data. We also discuss the conditions and parameters required for a p-B11 fusion reactor.

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Date submitted: 03 Jul 2019
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