I have read this paper with great interest. I commend the authors for high quality of their work, detailed experiments, and clear and substantiated discussion. In principle, the article is very well written, and the topic and results merit publication in CondMat.

Reading through the paper, I only had minor remarks considering references, where the work about flux front propagation and scaling laws in PRB 66, 174507 (2002) should be mentioned, as well as the works by Wilson Ortiz and Alejandro Silhanek about guiding of flux avalanches by pinning lattices. Among very recent works, I found arxiv:1706.00628 (to appear in NatCommun) as a beautiful experiment on vortex penetration, motion, and extreme velocity, that is clearly relevant to the present paper (and increases its contemporary value).

In any case, I recommend the paper for publication.

We thank Referee 2 for his thorough reading and very positive assessment of our work. We also thank her/him for reminding us of the work by Zapperi, Moreira, et al.. While we were aware of this, the work by these authors describes the progression of the mean front position under a variety of different experimental conditions, only one of which (condition D in ref. [2] below) is directly relevant to our experiment. This condition is only very briefly discussed in Ref [2]. Also, [1] and [2] concern the mean progression of the front, rather than its roughening, which occupies only a minor part of those references (no explicit calculations of the growth and roughness exponents for the roughness are provided for example). Nevertheless, the work in Refs. [1] and [2] below is relevant to the work and quite elegant. In the revised version of the manuscript, we therefore make reference to it in the introductory section, Refs. [13] and [14] (new numbering).

We also thank the Referee for pointing out Ref. [3] (in the numbering below), that strongly questions the direct role of geometrical defects at the superconductor boundary in initiating flux avalanches. While such avalanches may be linked to edge disorder in our YBa2Cu3O7 films, to establish this requires further study. We therefore change the phrase on lines 234-236, which now reads “…, responsible for preferential flux penetration [50]. The question of whether these are linked to avalanche-like flux penetration at low temperature [33,37,47–52] remains to be established”, which also allows for a reference to [4] and [5] below.


[4]