The authors would like to thank the reviewers for their constructive and helpful feedback. We believe the paper is in a much better state thanks to the suggested changes.

**Response 1**

In response to the first reviewer’s comments, the cavity experienced multipacting X-ray emission before the degradation, but this multipacting was alleviated after processing. We have included this information in the text.

**Response 2**

In response to the second reviewer’s comments, we have corrected the grammatical error in the introduction and the incorrect Q values in the results section. Regarding the change in quality factor seen in the recoated cavity in figure 1, C, it is caused by trapped flux resulting from a quench at 16 MV/m. This quench appears to have been caused by multipacting. We have added this additional information to the results section and discuss these findings in the discussion section. At 2K the cavity does not quench until reaching the maximum gradient.

We have included more information on the VTS test and T-map procedure in the experimental section of the paper. The 4K test was performed first and the cavity was heated up above its superconducting transition temperature and cooled back down to 2K to remove any trapped flux resulting from the quench. The T-map is calibrated at 4K and then measured at 2K, so the red star in figure 1, C is correct. We have added this information to the caption of figure 2.

We have clarified the last sentence of the result section to specify that we did not see any spike in x-ray emission during the 2K measurement.

**Response 3**

In response to the third reviewer’s comments, we are unable to examine the cavity microscopically, since this cavity is still being used to conduct further studies. Instead we have conducted a new study using Nb3Sn coated wires to determine the mechanism behind the healing that we observe in the cavity. The wires were elongated to produce cracks in the film and then recoated with the same recipe as the cavity. We observed the cracks before and after recoating using SEM. This study confirms that crack healing occurs via the creation of new Nb3Sn. It appears that both of the originally proposed mechanisms are occurring during the process. We saw the creation of new Nb3Sn both at the base of the cracks in the Nb substrate as well as within the crack itself. Using EDS, we were able to determine that the newly deposited material is Nb3Sn and there does not appear to be excess Sn in the new material. While there are still more studies needed to more deeply understand the healing process, such as using TEM-EDS to more accurately measure the stoichiometry of the deposited Nb3Sn, we believe that this evidence is sufficient to support our proposed healing mechanism.

We have also included the reviewer’s suggestions to mention the effects of elastic deformation and the possibility of stress concentrators in the creation of cracks in Nb3Sn films.