Reviewer 1:

I do not agree with the authors' statement: "We agree with the reviewer that the factor 2 is an upper limit, and it has been made clear in the manuscript."
The factor of 2 can only be applied to the multiple-scattering component, not to the total backscattering value. Therefore, the yellow circles shown in Figure 8, which the authors describe as the "maximum theoretical value," are not correct—they overestimate the theoretical maximum.
I am not requesting that the authors explicitly model the CBOE effect. However, to make the results correct, I can only recommend acceptance if the authors choose one of the following options:

1. Estimate the single-scattering component theoretically, compute the multiple-scattering contribution, and apply the factor of 2 only to the multiple-scattering portion.
2. Explicitly acknowledge that the yellow circles in Figure 8 overestimate the theoretical maximum values, and explain why. (However, in this case, I question the meaning and usefulness of these yellow circles.)
3. Remove the yellow circles from Figure 8 and delete the related text.

We acknowledge that the yellow circles in Figure 8 overestimate the theoretical maximum values. The legend in the figure has been modified, and the corresponding text has been made clearer.

Figure 8. The results of SMRT simulations for a two-layer icy satellite model are shown, along with observations on Jupiter's and Saturn's icy satellites (from Le Gall et al., 2023) and simulated disk-integrated observations corresponding to the Antarctica megadunes region. Since the SMRT does not simulate the coherent backscatter opposition effect, A_{SL}^{disk} is multiplied by 2 *to provide the upper theoretical limit of the simulations with the maximum possible COEB effect*. Even so, the model is unable to reproduce most Cassini observations of Saturn's icy moons.

'*In theory, the CBOE can at most multiply the radar returns (σ^0 and therefore also A^{disk}) by a factor of 2. To investigate the upper limit of SMRT simulations if they were including CBOE, we plot the simulations multiplied by 2, and find that these are consistent with some Saturn moon observations, but still insufficient for Enceladus, the radar-brightest object in the solar system. This exercise reinforces the hypothesize that CBOE is necessary to explain moon backscatter, although it may not fully explain the behavior of the brightest moons. Integrating CBOE into SMRT is a meaningful avenue for future improvement*.'

Reviewer 2:

After reviewing the paper, I believe the authors have addressed most of my previous questions. There is only one comment I want to make and just FYI. The paper discussed the difference in V and H observations. There are several papers discussing this phenomenon. Some tends to interpret this effect by horizontal variations using 3D random media. Some people use internal rough surfaces to explain the V and H difference.

We acknowledge that the topic of polarization differences has been explored in several previous works, resulting in varying interpretations of the observed effects. We thank the reviewer for this additional comment.