

The third version of this manuscript is finally in good shape (beside the figures). By refocusing the manuscript on the SRM difference to CO2 mitigation, the paper makes a clear and novel contribution to the discussion, while citing most of the recent relevant literature (should add Tilmes et al 2014 (GRL), which assessed the effect of global versus regional shortwave radiation management on Arctic sea ice.) I can now almost recommend publication, provided final edits are done as outlined below, including finally replacing the figures with higher quality figures, as requested twice already to no avail.

As the wrong manuscript file was submitted, I can only comment on the version included in the reply to review, assuming this is the version the authors wanted to submit. Unfortunately, that has no line numbers, so I can't refer to the exact place in the paper in my comments below.

End of Abstract: Should be "produces a higher amplification".

Corrected

Introduction 3rd paragraph: I think this whole paragraph should go, as it isn't directly related to anything that is later discussed, and it makes the Introduction longer than the results section, which is odd for a paper.

Removed paragraph as suggested reducing word count.

Introduction 3rd paragraph (if kept): Missing comma and please check the grammar in this sentence after "The thinner the ice the less that survives the summer melt and consequently the area of perennial ice declines"

Introduction 3rd paragraph the Introduction is longer than the results section.: Should be "ice-albedo feedback"

3<sup>rd</sup> paragraph removed

Introduction 4th paragraph: Please take out "The current minimum...", as this statement is unnecessary (never referred to again), is based on daily sea ice extent (when the rest is based on monthly means), and there is no pre-industrial or 1980s reference value given, so just one number does not support the following statement of "Such a sharp drop off in sea ice..". This fits much better if it follows the 11% decline per decade in the sentence before the one I would recommend taking out.

Agreed, the sentence has been removed.

Introduction 5th paragraph: The coastal erosion is not just a problem if the ice loss contributes to increase extreme weather in mid-latitudes, but in general as there is a longer open-water season in the Arctic. So this should be “Furthermore,” not “Thus”, which implies a causal link to the mid-latitude weather changes.

Agreed. It was not the attention to infer causality. “Thus “ replaced with “Furthermore”

Introduction 6th paragraph: Should be “It has been suggested”, not “It is suggested” at start of red text. In this discussion, or later, the Tilmes et al 2014 (GRL) paper should also be cited, which assessed the effect of global versus regional shortwave radiation management on Arctic sea ice.

Corrected as suggested. The reference to Tilmes et al has been included in the conclusions when asymmetric SRM is introduced.

Conclusions: two .. after “SMR and RCP..

Corrected

Conclusions: Last sentence should be clarified, and include the cause of this: “Here we show that SRM is not as effective as conventional mitigation in reducing Arctic sea-ice loss, due to a higher polar amplification for SRM for the same amount of global warming.” As this is the last sentence, having it be easy to follow and strong is important. The suggested rewrite also sounds less like an endorsement of SRM, which the authors made clear in another place is not what they are doing.

Thanks. Your better final sentence has been adopted

References: Several references appear out of order (Overland in between McLaren and Ming; Rayner between Sanderson and Shepherd), one is cut off (ure, N, Saches, T., Helm, V., and Fritz, M.). So extra care should be taken to ensure all references cited are included, in the correct order, and without mistakes.

References checked and corrected.

Figures: These figures are still of very bad quality and can not be published like this. The authors replied to my previous comment on that saying “I have no problem with the figures when I downloaded the paper from the Cryosphere. In any case the final graphics will be high resolution”. I have a problem with the figures, they are pixelated in the versions I have, making the text in them hard to read (like legend text) and the lines blur together. If high quality versions exist, why not include them now, after two requests for that?

EPS versions of the figures exist but cannot be included in word. They can be separately downloaded to Cryosphere as required, but no such capability currently exists