

Weather Clim. Dynam. Discuss., community comment CC1
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Comment on wcd-2022-43

Adam Scaife

Community comment on "The role of Rossby waves in polar weather and climate" by Tim Woollings et al., Weather Clim. Dynam. Discuss.,
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A small comment to request clarification of upstream propagation.

It is suggested (line 122-128) that long waves have the potential for westward propagation relative to the ground. However, I think this is potentially misleading as the simple theory discussed here does not allow westward propagation if the waves are stationary. This is easily shown by deriving an expression for C_{gx} and using the condition $\omega = 0$ as in Scaife et al, QJRMS, 2017.

Please could the discussion be clarified here to make it clear that, *irrespective of the values of k and l* , it is only *transient* waves that have any possibility for westward propagation relative to the ground? If this is not correct I would equally interested to know!

Many thanks