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Orientation patterns in sheep[1]

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[1]**Author Contributions** FJM originally formulated the idea, MG and FJM performed statistical analyses and wrote the manuscript. MG took the field data

Highlights

- The sheep flocks in our study area did not orientate relative to sun radiation and wind direction
- Sheep flocks under mild environmental conditions in our study area were aligned according Earth's magnetic field, keeping a NE-SW orientation
- The NE-SW alignment recorded in our study area is consistent to the described in other mammal species

Abstract Certain physical environmental factors such as temperature, wind, solar radiation, and magnetic field have been documented as modulators of body orientation in mammals. This study aims to analyze the orientation of the body axis in sheep in order to test its possible relationship with the aforementioned factors. We recorded the orientation of 1155 animals in several areas in province Segovia (central Spain) under different conditions regarding temperature, relative position of the Sun and presence/absence of clouds and wind. For analyzing data, we used circular statistics. The results do not allow us to conclude that orientation of sheep depends on temperature and wind direction. Notwithstanding, when there was no wind nor sun