1120-52-175   **Florian Besau*** (`florian.besau@case.edu`) and **Elisabeth M. Werner**. *The floating body in real space forms.*

We carry out a systematic investigation of floating bodies in real space forms. A new unifying approach not only allows us to treat the important classic case of Euclidean space as well as the recent extension to the Euclidean unit sphere, but also the new extension of floating bodies to hyperbolic space.

In our main result we establish a relation between the derivative of the volume of the floating body and a certain surface area measure, which is called the floating area. In the Euclidean setting the floating area coincides with the well known affine surface area, a powerful tool in the affine geometry of convex bodies. (Received February 21, 2016)