

1135-20-1871

**Bena Tshishiku\*** (bena@math.harvard.edu) and **Genevieve Walsh**. *Groups with Bowditch boundary a 2-sphere.*

Bestvina-Mess showed that the duality properties of a group are encoded in any boundary that gives a  $Z$ -set compactification; for example, a hyperbolic group with Gromov boundary an  $n$ -sphere is a  $PD(n+1)$  group. For relatively hyperbolic pairs  $(G,P)$ , the natural boundary – the Bowditch boundary – does not give a  $Z$ -set compactification. Nevertheless we show that if the Bowditch boundary of  $(G,P)$  is a 2-sphere, then  $(G,P)$  is a  $PD(3)$  pair. This is joint work with Genevieve Walsh. (Received September 25, 2017)