

# Relations between various boundaries of relatively hyperbolic groups

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**Abstract.** Suppose a group  $G$  is relatively hyperbolic with respect to a collection  $\mathbb{P}$  of its subgroups and also acts properly, cocompactly on a  $CAT(0)$  (or  $\delta$ -hyperbolic) space  $X$ . The relatively hyperbolic structure provides a relative boundary  $\partial(G, \mathbb{P})$ . The  $CAT(0)$  structure provides a different boundary at infinity  $\partial X$ . In this article, we examine the connection between these two spaces at infinity. In particular, we show that  $\partial(G, \mathbb{P})$  is  $G$ -equivariantly homeomorphic to the space obtained from  $\partial X$  by identifying the peripheral limit points of the same type.