ON TWO PROBLEMS OF HARRIS CONCERNING RC-PROXIMITIES

P. L. SHARMA AND S. A. NAIMPALLY

Abstract. We give an example that settles the first and third problems posed recently by Douglas Harris [1]. The example shows that comparable RC-proximities on an RC-regular space need not give rise to comparable regular-closed embeddings, and that an RC-regular space need not have a largest regular-closed embedding.

Consider the minimal regular but not completely regular space Z constructed in [2]. Let T be the dense discrete subspace of Z consisting of points none of the coordinates of which are infinite limit ordinals. Let δ be the discrete proximity on T and let δ' be the RC-proximity on T induced by the unique RC-proximity on Z. Then δ > δ' and the ideal spaces corresponding to δ, δ' are βT and Z respectively. Since Z is not compact, there is no continuous function from βT onto Z and hence βT is not larger than Z. It is now also clear that T has no largest regular-closed embedding.

References


Department of Mathematics, Indian Institute of Technology, Kanpur 16, U.P., India

Current address (Naimpally): Lakehead University, Thunder Bay, Ontario, Canada

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