Robert Raphael, Montreal, Quebec Canada, and R. Grant Woods*

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For a Tychonoff space $X$, let $uX$ denote its Hewitt realcompactification and $bX$ denote its P-space coreflection. It is known that $b(uX)$ is a realcompact space containing $bX$ as a dense subspace. If $bX$ is C-embedded in $b(uX)$, then $b(uX) = u(bX)$ (up to equivalence if extensions). We call such a space $X$ a bu-good space.

We investigate the preservation of the property of being bu-good under formation of subspaces and products. Let $H(X)$ denote the epimorphic hull of $C(X)$ and let $G(X)$ denote the smallest von Neumann regular subring of $F(X)$ (the ring of all real-valued functions with domain $X$) that contains $C(X)$. We relate the equality $b(uX) = u(bX)$ to the question of when $G(X)$ and/or $H(X)$ is ring-isomorphic to a ring of functions of the form $C(Y)$. These latter results extend results obtained in earlier work by the authors and M. Henriksen. (Received September 20, 2005)