CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, March 9
2:00 – 3:00 PM
Maria Sanford, Room 101

C-EMBEDDED G_δ-DENSE SUBSETS OF PRODUCTS

IVAN GOTCHEV

CENTRAL CONNECTICUT STATE UNIVERSITY

ABSTRACT

All spaces here are assumed Tychonoff, and $\chi(q, X)$ denote the character of the point q in X. A subspace Y of X is G_δ*-dense* if Y meets every nonempty G_δ subset of X.

N. Noble proved in 1972 that every G_δ-dense subspace in a product of separable metric spaces is C-embedded. In 1970/1973 M. Ulmer showed that in a product of first-countable spaces, every Σ-product is C-embedded. We generalize these theorems in the following way.

Theorem. Let $\{X_i : i \in I\}$ be a set of completely regular spaces, Y dense in $X := \prod_{i\in I} X_i$, and $f \in C(Y, Z)$, where Z is a complete metric space. If $q \in X \setminus Y$ belongs to the G_δ-closure of Y and is such that $\chi(q_i, X_i) \le \omega$ for every $i \in I$, then f extends continuously to $Y \cup \{q\}$.

As a corollary of the above theorem we obtain the following result of E. Pol and R. Pol from 1976.

Theorem. Every G_δ-dense subset of a product of first-countable spaces is C-embedded.

For further information:

gotchevi@ccsu.edu 860-832-2839