1046-54-575 **Hueytzen J Wu*** (kfhjw00@tamuk.edu), Department of Mathematics, Texas A&M University-Kingsville, Kingsville, TX 78363, and **Wan-Hong Wu** (dd1273@yahoo.com), 7703 Floyd Curl Drive, San Antonio, TX 78229. *An open C*(D)-filter process of compactifications and generalized Stone-Weierstrass theorems.*

By means of a characterization of compact spaces in terms of open C*(D)-filters induced by a subset D of C*(X), an open C*(D)-filter process of compactification of an arbitrary topological spaces X is obtained by embedding X as a dense subspace of (X*, T) where X* = [P : P is an open C*(D)-filter on X], U* = [P : U is in P] and T is the topology induced by the base B = [U* : U is a nonempty open set in X] for X*. An arbitrary Hausdorff compactification (Z, h) of a Tychonoff space X can be obtained from D = [f : f = *f o h, *f is in C(Z)], a base G(D) for X and X* = [F : F is a basic G(D)-filter on X] by the open C*(D)-filter process of compactification. Finally, necessary and sufficiend conditions for vector sublattices or subalgebras to be dense in C(Z), C*(X) or C*(Y) are provided as generalized Stone-Weierstrass theorems, where Z, X and Y are a copact Hausdorff space, a Tychonoff space and an arbitrary topological space, respectively. (Received September 08, 2008)