1065-30-99 **Eric Amar**, Institut de Mathématiques de Bordeaux, Université Bordeaux 1, 351 cours de la Libération, 33405 Talence, France, and **Andreas Hartmann*** (Andreas.Hartmann@math.u-bordeaux1.fr,ahartma2@richmond.edu), Institut de Mathématiques de Bordeaux, Université de Bordeaux, 351 cours de la Libération, 33405 Talence, France. *Interpolation and weak interpolation in backward shift invariant subspaces.*

Given a space of holomorphic functions on a complex domain, a sequence of points in the domain is called interpolating if every sequence of suitable values can be interpolated by a function in the space. This notion of interpolation can be weakened: a sequence is called weak interpolating if we can interpolate sequences which are zero everywhere except at one point under a suitable norm control of the interpolating function.

A prominent example is the Hardy space: For every Blaschke sequence in the disk, the Blaschke product associated with the sequence except one point interpolates zeros everywhere except in that point. Obviously, under what is now known as the Carleson condition the sequence is weak interpolating (the Carleson condition gives automatically the "suitable control of the norm"). One of Carleson's achievements was to prove that such a sequence is already interpolating. It turns out that a similar behaviour holds in many other spaces.

In backward shift invariant subspaces, however, this is not true. Still, in certain situations one can deduce interpolation from weak interpolation by "increasing the size of the space". This will be achieved via Khinchin based methods used previouly by Amar for Hardy spaces of several complex variables. (Received September 05, 2010)