1015-46-101 **Sten Kaijser*** (sten@math.uu.se), Department of Mathematics, P.O. Box 480, SE-751 06 Uppsala, Sweden. *Interpolation of Banach algebras.*

It seems that there are relatively few papers devoted to interpolation of Banach algebras. One reason for this may be the fact that if in a given Banach couple (A_0, A_1) both spaces are Banach algebras, then the space $\Sigma(\bar{X})$ is usually not a Banach algebra, so if we wish to obtain interpolation spaces that are also Banach algebras, then K-methods are difficult to handle.

On the other hand the intersection space is a Banach algebra (if the multiplications agree), so J-methods are useful. This also means that K-methods apply naturally to the dual spaces. In our talk we shall mostly consider interpolation of commutative Banach algebras, and our main result is a description of the maximal ideal space of an interpolated algebra. The special case when the intersection algebra is an algebra of analytic functions is important because of the relations with the spectra of operators on interpolation spaces.

We shall also consider the case when the algebras A_0 and A_1 have units, but the intersection does not, and relate this question to the interpolation of subspaces problem.

Another interesting question that I shall also talk about concerns weakly compact homomorphisms of Banach algebras and factorization through reflexive Banach algebras. (Received January 30, 2006)