

In this talk we will present recent results on explicit, computable and uniform bounds for the computation of approximate common fixed points of one-parameter nonexpansive semigroups on a subset C of a Banach space, derived by proof mining on a proof by Suzuki in [1].

In this most recent work we give a bound different to the one in [2] that had been derived by proof mining on a different proof of a similar statement by Suzuki in [3].

For uniformly convex C , as a corollary to the above we moreover give a computable rate of asymptotic regularity with respect to Kuhfittig's classical iteration schema, that was obtained by applying a theorem by Khan and Kohlenbach in [4].

[1] Suzuki, T. : The set of common fixed points of a one-parameter continuous semigroup of mappings is $F(T(1)) \cap F(T(\{\sqrt{2}\}))$, Proceedings of the American Mathematical Society 134, No 3, 673-681(2005).

[2] Kohlenbach, U. and Koutsoukou-Argraki, A. : Effective asymptotic regularity for one-parameter nonexpansive semigroups, J. Math. Anal. Appl. 433, 1883-1903 (2016).

[3] Suzuki, T. : Common fixed points of one-parameter nonexpansive semigroups, Bull. London Math. Soc. 38, 1009-1018(2006).

[4] Khan, M.A.A. and Kohlenbach, U. : Bounds on Kuhfittig's iteration schema in uniformly convex hyperbolic spaces, J. Math. Anal. Appl. 403, 633-642 (2013).