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# SEMINÁRIO DE LÓGICA MATEMÁTICA

**Dia 7 de Julho (sexta-feira), às 15:00, sala 6.2.38**

## **A quantitative analysis of a theorem by F.E. Browder guided by the bounded functional interpretation**

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### Abstract:

In [2], Kohlenbach did an analysis of the proof of Browder's theorem (in [1]) via the monotone functional interpretation. I will be following the same outline but guided by the bounded functional interpretation ([3], [4]). Although the bounds obtained are the same, this example provides a first look at how the bounded functional interpretation works in practice.

[1] Browder, Felix E, Convergence of approximants to fixed points of nonexpansive nonlinear mappings in Banach spaces, *Archive for Rational Mechanics and Analysis*, vol. 24 (1967), no. 1, pp. 82-90.

[2] Kohlenbach, Ulrich, On quantitative versions of theorems due to F.E. Browder and R. Wittmann, *Advances in Mathematics*, vol. 226 (2011), no. 3, pp. 2764-2795.

[3] Ferreira, Fernando and Oliva, Paulo, Bounded functional interpretation, *Annals of Pure and Applied Logic*, vol. 135 (2005), no. 1-3, pp. 73-112.

[4] Ferreira, Fernando, Injecting uniformities into Peano arithmetic, *Annals of Pure and Applied Logic*, vol. 157 (2009), no. 2, pp. 122-129.

*Seminário financiado por Fundos Nacionais através da FCT – Fundação para a Ciência e a Tecnologia no âmbito do projeto UID/MAT/04561/2013*