5007-60-515 **Airam Aseret Blancas*** (airam@cimat.mx), Jalisco S/N, Col. Valenciana, 36240 Guanajuato, Guanajuato, Mexico. *A population with neutral mutations conditioned to non-extinction.*

We are interested in the genealogical structure of alleles for a Galton-Watson branching process with neutral mutations, in the situation where the initial population is large and the mutation rate small. Assuming that the population is critical and that the reproduction distribution is in the domain of attraction of $\alpha-$stable law we prove, conditionally on non extinction, results similar to those obtained in [2]. Namely, we establish a functional convergence of a normalized branching processes towards a continuous state branching processes with immigration in discrete time. This work is part of my phD doctoral research elaborated under the direction of Víctor Rivero.

Keywords. Branching process; Neutral mutations; Q-processes; Regular variation; Stable distribution.

[1] C.M. Goldie, J.L. Teugeles and N.H. Bingham. Regular Variation. Cambridge University Press, 1987.

[2] J. Bertoin. A limit theorem for trees of alleles in branching processes with rare neutral mutations. Stochastic Processes and their Applications 120 (2010) 678-697.

[3] K.B. Athreya and P.E. Ney. Branching Processes. Springer-Verlag, New York-Heidelberg, 1972.

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