The Pyrenees International Workshop on Statistics, Probability and Operations Research, SPO 2011 Jaca, September 13–16th 2011

On the structure of near-record values

Raúl Gouet[1], **F. Javier López**[2], **Gerardo Sanz**[2]

SUMMARY

Near-records of a sequence are observations lying within a fixed distance of the current record [1]. In this work we study the structure of near-record values, showing that they can be seen as a nonhomogeneous Poisson cluster process. Based on this representation we derive some properties of near-record values. We also show how near-records can be used in inferential procedures, improving classical estimations based on record values only.

Keywords: Records, near-records, cluster Poisson process, maximum likelihood estimation.

AMS Classification: 60G70, 60G55, 62F10.

References

[1] Balakrishnan N, Pakes AG, Stepanov A (2005). On the number and sum of near-record observations. *Adv Appl Probab* **37**, 765-780.

[1]Dpto. Ingeniería Matemática and CMM (UMI 2807, CNRS), Universidad de Chile, Av. Blanco Encalada 2120, 837-0459, Santiago, Chile. Supported by grants PFB-03-CMM, Fondecyt 1090216 and MTM2010-15972 of MICINN.
rgouet@dim.uchile.cl

[2]Dpto. Métodos Estadísticos and BIFI, Facultad de Ciencias, Universidad de Zaragoza. C/ Pedro Cerbuna, 12. 50009 Zaragoza, Spain. Supported by grant MTM2010-15972 of MICINN.
javier.lopez@unizar.es; gerardo.sanz@unizar.es