

Corners and Records of the Poisson Process in Quadrant

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Abstract

The scale-invariant spacings lemma due to Arratia, Barbour and Tavaré establishes the distributional identity of a self-similar Poisson process and the set of spacings between the points of this process. In this note we connect this result with properties of a certain set of extreme points of the unit Poisson process in the positive quadrant

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Bibliography

1. Arnold, Barry C.; Balakrishnan, N.; Nagaraja, H. N. Records. Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xx+312 pp. ISBN: 0-471-08108-6 [MR1628157](#) (2000b:60127)
2. Arratia, Richard; Barbour, A. D.; Tavaré, Simon. A tale of three couplings: Poisson-Dirichlet and GEM approximations for random permutations. *Combin. Probab. Comput.* 15 (2006), no. 1-2, 31--62. [MR2195574](#) (2006m:60012)
3. Arratia, Richard; Barbour, A. D.; Tavaré, Simon. The Poisson-Dirichlet distribution and the scale-invariant Poisson process. *Combin. Probab. Comput.* 8 (1999), no. 5, 407--416. [MR1731976](#) (2001b:60023)
4. Barndorff-Nielsen, O.; Sobel, M. On the distribution of the number of admissible points in a vector random sample. *Teor. Veroyatnost. i Primenen.* 11 1966 283--305. [MR0207003](#) (34 #6819)
5. Bertoin, Jean. Random fragmentation and coagulation processes. Cambridge Studies in Advanced Mathematics, 102. *Cambridge University Press, Cambridge*, 2006. viii+280 pp. ISBN: 978-0-521-86728-3; 0-521-86728-2 [MR2253162](#) (2007k:60004)
6. Bertoin, Jean; Caballero, Maria-Emilia. Entrance from $\$0+\$$ for increasing semi-stable Markov processes. *Bernoulli* 8 (2002), no. 2, 195--205. [MR1895890](#) (2003c:60071)
7. Bunge, John; Goldie, Charles M. Record sequences and their applications. *Stochastic processes: theory and methods*, 277--308, Handbook of Statist., 19, North-Holland, Amsterdam, 2001. [MR1861727](#)
8. Daley, D. J.; Vere-Jones, D. An introduction to the theory of point processes. Springer Series in Statistics. *Springer-Verlag, New York*, 1988. xxii+702 pp. ISBN: 0-387-96666-8 [MR0950166](#) (90e:60060)
9. Dziubdziela, W.; Kopoci'nski, B. Limiting properties of the k -th record values. *Zastos. Mat.* 15 (1976), no. 2, 187--190. [MR0420788](#) (54 #8800)
10. Gnedin, Alexander V. Best choice from the planar Poisson process. *Stochastic Process. Appl.* 111 (2004), no. 2, 317--354. [MR2056541](#) (2005c:60056)
11. Gnedin, Alexander. Recognising the last record of sequence. *Stochastics* 79 (2007), no. 3-4, 199--209. [MR2308071](#)
12. Gnedin, Alexander V. The chain records. *Electron. J. Probab.* 12 (2007), no. 26, 767--786 (electronic). [MR2318409](#) (2008e:60153)
13. Gnedin, A.; Pitman, J. Self-similar and Markov composition structures. *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* 326 (2005), Teor. Predst. Din. Sist. Komb. i Algoritm. Metody. 13, 59--84, 280--281; translation in *J. Math. Sci. (N. Y.)* 140 (2007), no. 3, 376--390 [MR2183216](#) (2007f:60012)
14. Gnedin, Alexander; Pitman, Jim. Poisson representation of a Ewens fragmentation process. *Combin. Probab. Comput.* 16 (2007), no. 6, 819--827. [MR2351686](#)

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15. Goldie, Charles M.; Rogers, L. C. G. The k -record processes are i.i.d. *Z. Wahrsch. Verw. Gebiete* 67 (1984), no. 2, 197--211. [MR0758073](#) (86c:60075)
16. Nevzorov, Valery B. Records: mathematical theory. Translated from the Russian manuscript by D. M. Chibisov. *Translations of Mathematical Monographs*, 194. *American Mathematical Society, Providence, RI*, 2001. x+164 pp. ISBN: 0-8218-1945-3 [MR1791071](#) (2002e:62047b)
17. Resnick, Sidney I. Extreme values, regular variation, and point processes. *Applied Probability. A Series of the Applied Probability Trust*, 4. *Springer-Verlag, New York*, 1987. xii+320 pp. ISBN: 0-387-96481-9 [MR0900810](#) (89b:60241)



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