
Preface to the 2nd edition

By now *Stopped Random Walks* has been out of print for a number of years. Although 20 years old it is still a fairly complete account of the basics in renewal theory and its ramifications, in particular first passage times of random walks. Behind all of this lies the theory of sums of a random number of (i.i.d.) random variables, that is, of *stopped random walks*.

I was therefore very happy when I received an email in which I was asked whether I would be interested in a reprint, or, rather, an updated 2nd edition of the book.

And here it is!

To the old book I have added another chapter, Chapter 6, briefly traversing nonlinear renewal processes in order to present more thoroughly the analogous theory for *perturbed random walks*, which are modeled as a random walk plus “noise”, and thus behave, roughly speaking, as $\mathcal{O}(n) + o(n)$. The classical limit theorems as well as moment considerations are proved and discussed in this setting. Corresponding results are also presented for the special case when the perturbed random walk on average behaves as a continuous function of the arithmetic mean of an i.i.d. sequence of random variables, the point being that this setting is most apt for applications to exponential families, as will be demonstrated.

A short outlook on further results, extensions and generalizations is given toward the end of the chapter. A list of additional references, some of which had been overlooked in the first edition and some that appeared after the 1988 printing, is also included, whether explicitly cited in the text or not.

Finally, many thanks to Thomas Mikosch for triggering me into this and for a thorough reading of the second to last version of Chapter 6.

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Allan Gut