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▶ the NPI imprecise distribution corresponds to the set of all maximum points of the “spacings likelihood” function (Ranneby, 1984; Coolen and Newby, 1994)

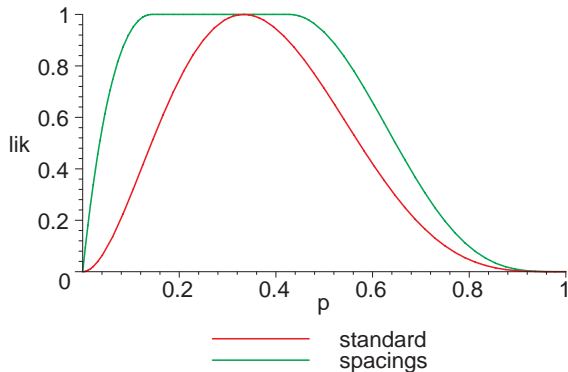
$$S(F) \propto \prod_{i=1}^{n+1} P_F(x_{(i-1)} < X_i \leq x_{(i)}) = \prod_{i=1}^{n+1} (F(x_{(i-1)}) - F(x_{(i)}))$$

## example

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- ▶ set  $A$  such that  $|\{x_1, \dots, x_6\} \cap A| = 2$
- ▶ (normalized) profile likelihood functions for  $P_F(X_7 \in A)$ :



## references

- Coolen, F., and Newby, M. (1994). Bayesian estimation of location parameters in life distributions. *Reliab. Eng. Syst. Saf.* 45, 293–298.
- Ranneby, B. (1984). The maximum spacing method. An estimation method related to the maximum likelihood method. *Scand. J. Stat.* 11, 93–112.