Regularity Gneiting and Raftery [1] define a **'regular score'** (for a categorical forecast) as one where $S(.,i)$ is real valued for $i = 1, ...m$, except possibly that $S(p,i) = -\infty$ if $p_i = 0$. They are using the positive orientation rule; the infinite score would be $+\infty$ in the negatively oriented case. In other words a score can only take an infinite value if the event that occurred was designated as impossible in the forecast.

Bibliography

[1] Gneiting and Raftery. Strictly proper scoring rules, prediction and estimation. Journal of the American Statistical Association, 102(477):359– 376, March 2007.