

- All Shannon's information measures are continuous when the alphabets are fixed and finite.
- For countable alphabets, Shannon's information measures are everywhere discontinuous.
- To probe further, see Problems 28, 29, 30, 31, and

S. W. Ho and R. W. Yeung, "On the discontinuity of the Shannon information measures," *IEEE Transactions of Information Theory*, IT-56, no. 12, pp. 5362-5374, 2009.