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(david.milovich@tamiu.edu). *The topology of ultrafilters as subsets of  $2^\omega$ .*

By identifying a subset of  $\omega$  with an element of the Cantor set  $2^\omega$  in the obvious way, it is possible to study the topological properties of any  $\mathcal{X} \subseteq \mathcal{P}(\omega)$ . We will focus on the case  $\mathcal{X} = \mathcal{U}$ , where  $\mathcal{U}$  is a non-principal ultrafilter on  $\omega$ . It is easy to see that there are  $2^c$  non-homeomorphic ultrafilters. However, the proof is based on a cardinality argument, hence it is not ‘honest’ in the sense of Van Douwen: it would be desirable to find ‘quotable’ topological properties that distinguish ultrafilters up to homeomorphism. We present (at least consistently) two such topological properties. (Received June 24, 2011)