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My current work concerns the restrictions one has to put on the *Easton function*, or *continuum function*, on regular cardinals in the context of large cardinals with reflection properties (this would typically be measurable cardinals). More specifically, if F is an Easton function, i.e. for all regular cardinals α, β we have $\alpha < \beta \rightarrow F(\alpha) \leq F(\beta)$ and $\mathrm{cf} F(\alpha) > \alpha$, we ask which cardinals κ remain measurable in a cofinality-preserving generic extension realizing F, i.e. $2^\alpha = F(\alpha)$ for α regular. The potential preservation of measurability of κ while the its power set has a prescribed value $F(\kappa)$ allows for a subsequent singularization via a single Prikry sequence, obtaining a failure of SCH in the context of the given Easton function F.

By results of Gitik, if κ is measurable and $2^\kappa = \lambda$, we need at least the strength of $o(\kappa) = \lambda$, which is slightly weaker than κ being λ-hypermeasurable (this means that $H(\lambda)$ of V is included in a target model of some elementary $j : V \rightarrow M$ with critical point κ). However, it seems that to obtain $2^\kappa = \lambda$ while keeping κ measurable *and simultaneously* realizing an arbitrary F on all regular cardinals, we need the full strength of λ-hypermeasurability.

In particular, we have shown[1] that if F is an Easton function, then there is a cofinality-preserving generic extension V^* of V which preserves measurability of every κ satisfying the following single non-trivial condition:

- κ is $F(\kappa)$-hypermeasurable in V and this is witnessed by an embedding $j : V \rightarrow M$ such that $j(F)(\kappa) \geq F(\kappa)$.

Building on a work by Menas, we have also shown that if F is simply defined, then all strong cardinals are preserved in the generic extension V^*.

Future work might inquire whether one really needs the full strength of $F(\kappa)$-hypermeasurability in the above result, or what other large cardinals may be preserved. A more difficult question would be to what extent such results can be extended to Easton functions defined on singular cardinals as well.

[1] Sy D. Friedman and Radek Honzik. Easton's theorem and large cardinals. Submitted to APAL.