Mu2E-II Muon Production

- Muon-collider front ends generate lots more muons per proton than Mu2E's target and production solenoid.
- Mu2E rejected such forward production due to the muon background it generates.
- Mu2E-II need not reject this: 2 meters of concrete will range out 800 MeV muons.

- A little longitudinal cooling can significantly increase the fraction of muons that stop.
- The absorber used for cooling can significantly clean up the hadron flash. This might permit a shorter dead time and allow the use of higher-Z stopping targets.
- Muon collider front ends considered much higher beam power and ignored backgrounds; this needs to be looked at from a Mu2E-II perspective….
- Neuffer, Bao, and Hansen did a related study.
- Muons, Inc. had two SBIR projects that are directly related:
  Stopping Muon Beams
  Isochronous Muon Beams
- **There is potentially a lot to be gained here**; the challenge is to keep it affordable and re-use as much of Mu2E as possible.