

Required Lengths of Collimator Jaws for Different Materials

R. Assmann, AB/ABP

14.2.2003

21st CWG

Question: **What jaw lengths are required for a given material?**

Note: **First result about this from JBJ: 0.4 m / 1.0 m for Graphite**

Boundary condition:

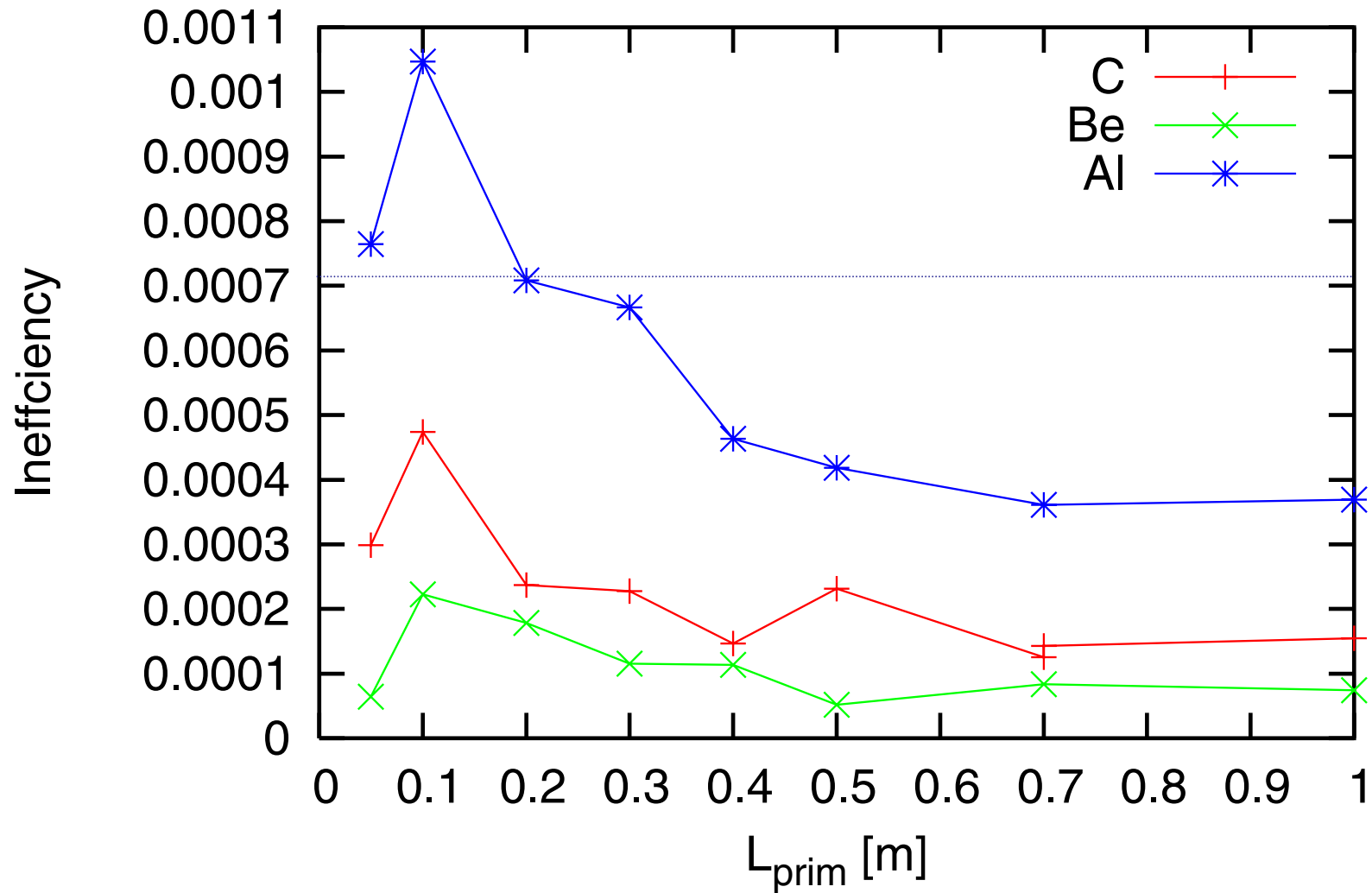
Keep the same cleaning efficiency as for the Al/Cu system!

Conditions: Optics V6.2 (fully optimized for cleaning efficiency)
Updated scattering routines with JBJ's numbers

Tracking trick: **Treat jaws as virtual!**

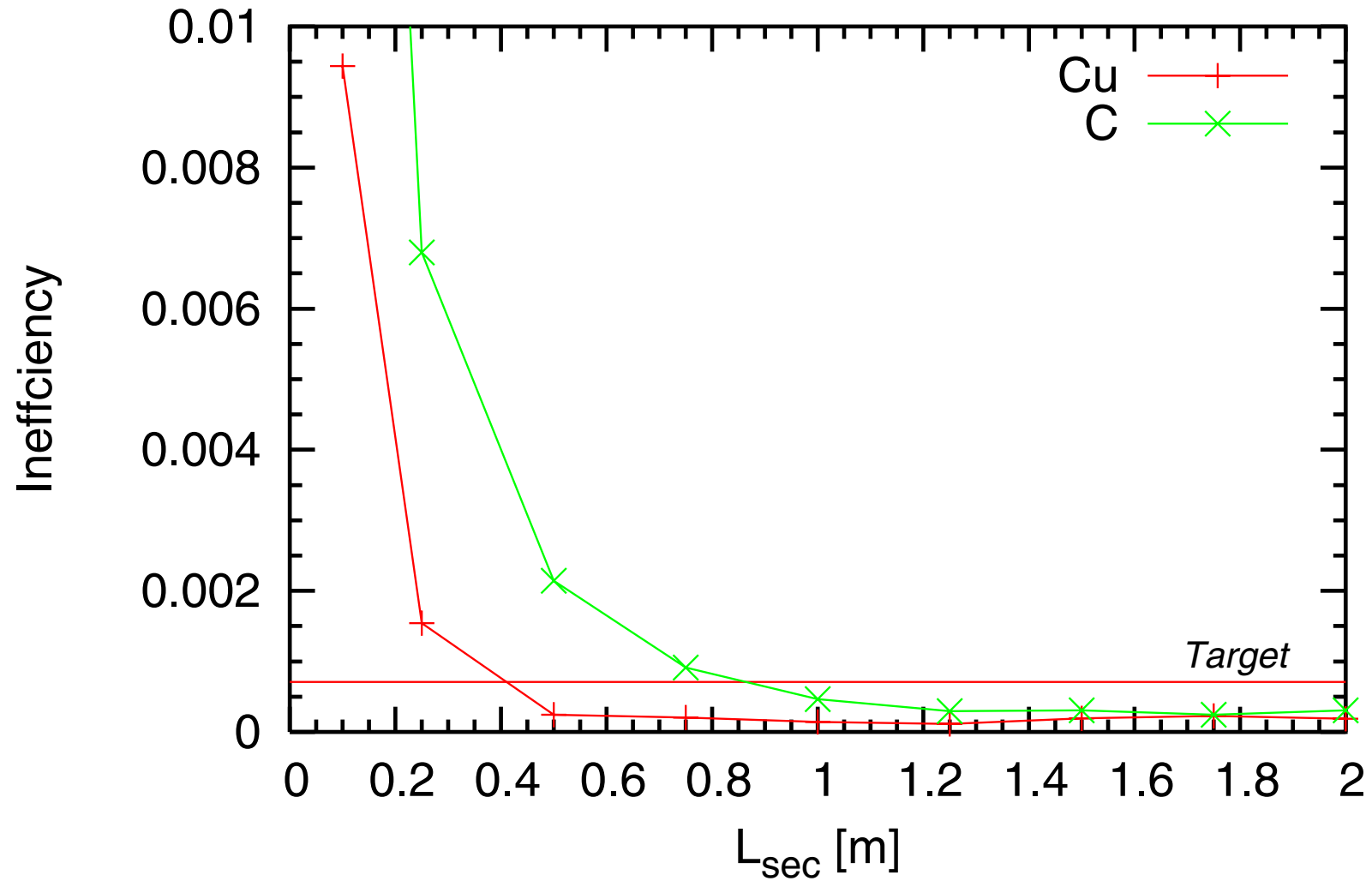
Track to center of jaw
Track back half the length
Scatter through the jaw
Track back half the length
Track on

1. Change length of primary jaw:



Observations: Win factor two for 0.2 m graphite (C)!
Stay with 0.2 m length for primary

2. Vary length of secondary jaw with 0.2 m C as primary:



Observations: Keep cleaning efficiency with 1 m secondary jaw made out of C.

Full agreement with result from JBJ.