

## BRU Touschek Lifetimes

Agreement between BMAD and DRER results (for BRU) has been achieved. There were two issues.

1. .673% emittance coupling in DRER BRU parameters. We had been assuming .5%
2. There was a bug in the Wiedemann code I had written for BMAD

radiation_integrals parameters		Wolski parameters		
Touschek lifetime from BMAD Piwinski [min]	Touschek lifetime from BMAD Wiedemann [min]	Touschek lifetime from BMAD Piwinski [min]	Touschek lifetime from BMAD Wiedemann [min]	Touschek lifetime from DRER Wiedemann [min]
16.3158	17.5505	16.4780	17.7167	17.6695

	Wolski supplied parameters	radiation_integrals parameters with .673% emittance coupling
sigma_z	9.37693E-03	9.21530E-03
emit_x	3.74333E-10	3.77581E-10
emit_y	2.51915E-12	2.54112E-12

I need to obtain the following parameters for PPA, OTW, OCS, MCH, DAS, and TESLA.

1. Bunch length
2. Horizontal emittance
3. Vertical emittance