

# Conclusions

- H<sup>-</sup> stripping loss:

Blackbody (300 K)	$0.8 \times 10^{-6} \text{ m}^{-1}$
Magnetic field (600 G)	$0.3 \times 10^{-6} \text{ m}^{-1}$
Residual gas ( $10^{-7}$ torr)	$0.3 \times 10^{-6} \text{ m}^{-1}$
Total	$1.4 \times 10^{-6} \text{ m}^{-1}$

- 0.2 W/m  $\Rightarrow$  hot beam pipe
- Blackbody:
  - 77 K
  - Jaws inside magnets
- Magnetic field: 500 G
- Residual gas:  $1 \times 10^{-8}$  torr
- Foil:
  - 1 ms pulse case better than SNS
  - 3 ms pulse case comparable to SNS
  - Need diamond foil study (Shaw will provide 2-edge foils for Fermilab testing)
  - PSR Sugai-type foil is worth testing

# Conclusions (cont...)

- Transport line:
  - Collimation
    - Similar to SNS, no particular concerns
  - Jitter correction
    - Passive debuncher with high voltage
    - Fast feedback
    - A combination of the two
- Conclusions:
  - 8 GeV  $H^-$  has a number of new challenges:
    - Blackbody stripping
    - Thicker foil
    - Longer transport line for collimation
    - More difficult for jitter correction
  - However, there are solutions for each one of these problems. We found no show stoppers.