

### SANS FILE HEADER LABELING

<sup>3</sup>He header for a transmission file should include cell name, number of measurement taken, user sample conditions, anything else user wants in file

For example: 'Burg 1, 100G, 10K...' represents a transmission measurement taken on cell Burgundy with supermirror and cell out of the beam. This is typically the first measurement taken to determine minimum number of attenuators, to be followed by 'Burg 2, 100G, 10K' to determine <sup>3</sup>He polarization.

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#### Measurements for <sup>3</sup>He atomic polarization and time decay

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1. TM: Supermirror Out, Flipper Off, Condition A, Cell Out
2. TM: Supermirror Out, Flipper Off, Condition A, Cell In
3. TM: **Blocked Beam**, Supermirror Out, Flipper Off, Any Condition, Cell Out

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#### Measurements for supermirror efficiency, flipper efficiency, and sample depolarization

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4. TM: Supermirror In, Flipper Off , Condition B, Cell Up (UU)
5. TM: Supermirror In, Flipper On, Condition B, Cell Up (DU)
6. TM: Supermirror In, Flipper On, Condition B, Cell Down (DD)
7. TM: Supermirror In, Flipper Off, Condition B, Cell Down (UD)
8. TM: **Blocked Beam**, Supermirror In, Flipper Off, Any Condition, Cell Out

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#### Scattering measurements (note 9-12 should suffice for the empty sample holder, if desired)

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9. TM: Supermirror In, Condition B, Flipper Off, Cell Out (required for absolute scaling)
10. SC: Supermirror In, Condition B, Flipper Off , Cell Up (UU)
11. SC: Supermirror In, Condition B, Flipper On , Cell Up (DU)
12. SC: Supermirror In, Condition B, Flipper On, Cell Dn (DD)
13. SC: Supermirror In, Condition B, Flipper Off , Cell Dn (UD)
14. SC: **Blocked Beam**, Supermirror In, Any Condition, Flipper Off, Cell Out

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#### Measurement for <sup>3</sup>He opacity – may or may not be needed

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15. TM: Supermirror Out, Flipper Off, Condition C, Cell Out (likely same as # 1)
16. TM: Supermirror Out, Flipper Off, Condition C, Cell Killed
17. TM: **Blocked Beam**, Supermirror Out, Flipper Off, Any Condition, Cell Out (likely same as # 3)

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#### Related Unpolarized Measurements (optional)

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18. TM: Supermirror Out, Flipper Off, Condition D, Cell Out (required for absolute scaling)
19. SC: Supermirror Out, Flipper Off, Condition D, Cell Out
20. SC: **Blocked Beam**, Supermirror Out, Flipper Off, Any Condition, Cell Out

\*Conditions should include sample(s) at various field / temperature settings plus an empty holder.