

# **Working Group D**

## **Some Issues (not complete)**

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**for everyone in WG D**

**IRENG07**  
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# Some of the Issues that have come up (in no particular order)

- **Backgrounds**

- **Upstream sources and masking**

- SR from upstream bends bouncing off of the beampipe wall
    - BGB hitting the IP and nearby masks and magnets (shower debris?)

- **Downstream sources**

- Beam energy spread needs to be modeled for SR
      - 0 mrad, 2 mrad have similar issues
      - 14 mrad design needs to make sure that diagnostic devices still work
    - Beam disruption
    - Beam bremsstrahlung
    - Bending the outgoing beam

- **General conclusions:**

- Great deal of work has been done
    - More work still needs to be done

# Issues (2)

- **Vacuum requirements**
  - How high can the vacuum be near in the detector?
  - NEG coating of the cone – heating from HOM
  - Lumped NEG pumps attached to the cone
  - The cold bore in the QD0 magnet causes significant outgassing if the walls are struck by SR (perhaps a screen inside the magnet?) How does this affect the QD0 magnet design?
  - HOM heating in the IR (100-400 W)
  - Fast lumi feedback kicker between QD0 and QF1
    - Turf struggle. Perhaps outboard of QF1?

# Issues (3)

- **How do we make the IR design compatible with a gamma-gamma collider option**
  - Tunnel
  - Laser
  - Separate detector?
- **Radiation physics people need more details about the detector designs in order to see where there might be shielding holes**
- **Final doublet stability**
- **Fringe field from detector designs**