

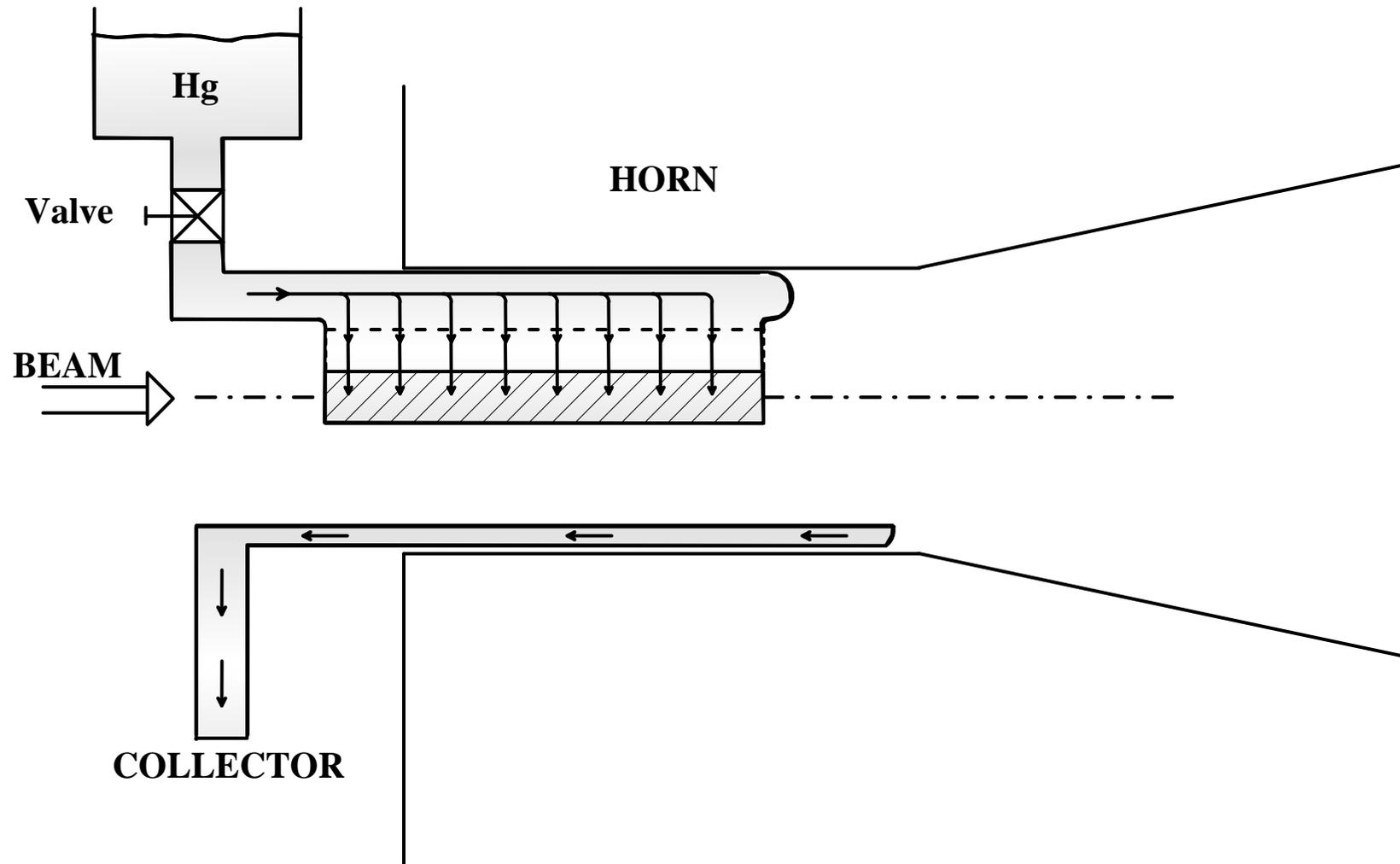
High-power Targetry for  
Future Accelerators  
September 8-12, 2003  
BNL

Freely Dropping Mercury Curtains

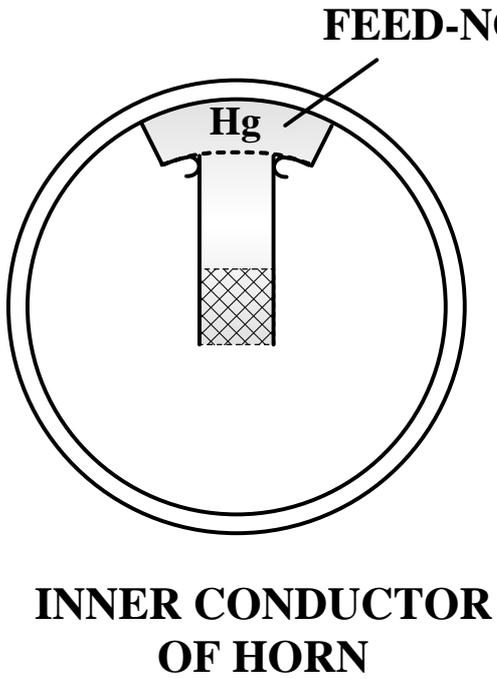
[EDMS no: 402091]

**P. SIEVERS**  
**CERN**

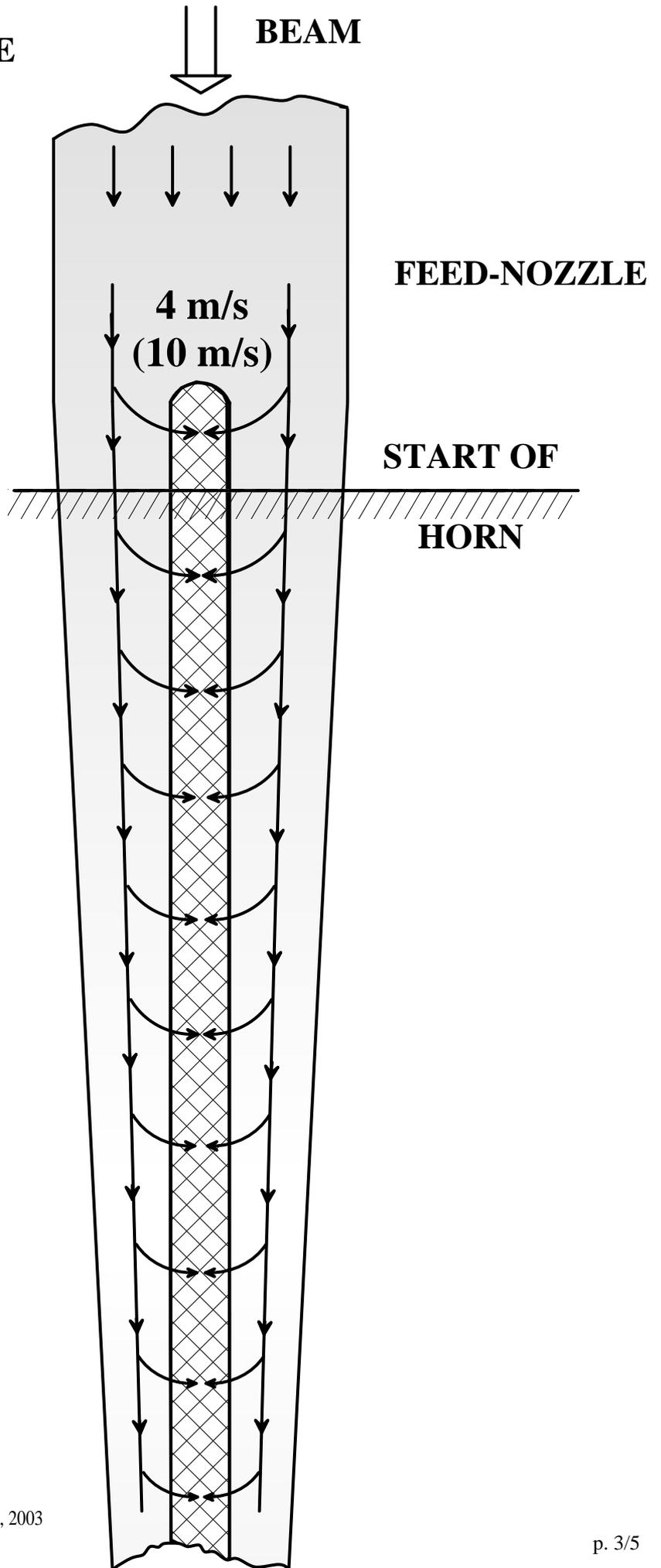
# FREE FLOWING CURTAIN TARGET



# Front view



# Top view

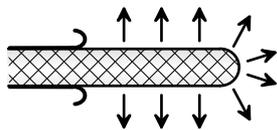


Burst Frequency : 50 Hz

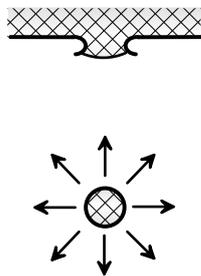
Target : 1cm x 1cm

L = 40cm

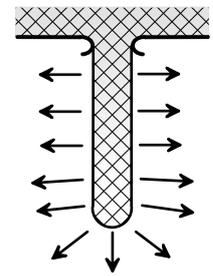
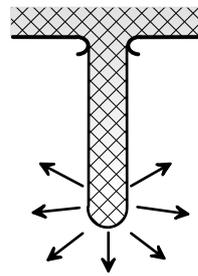
Free  
Jet



Pulsed  
Curtain



Continuous Curtain  
Tip explodes      Curtain explodes



Volume Flow ( cm <sup>3</sup> /s )	2000.	2000.	2000.	5000.
Velocity at nozzle ( m/s )	>20.	1.25	0.5	1.25
Pressure ( kPa )	2700	10.5	1.7	10.5

Pulsed Pressure.  
Mech. or el. magn.  
valve

## Conclusion

- Yield somewhat reduced by nozzle and curtain ?
- Very conservative pressures and velocities
- For lower burst frequencies even better
- How much of curtain explodes ?
- Pulsed curtain
- Valve at 50 Hz

Pulsed pressure

Mechanical valve (rotating shutter)

El. magn. valve :

