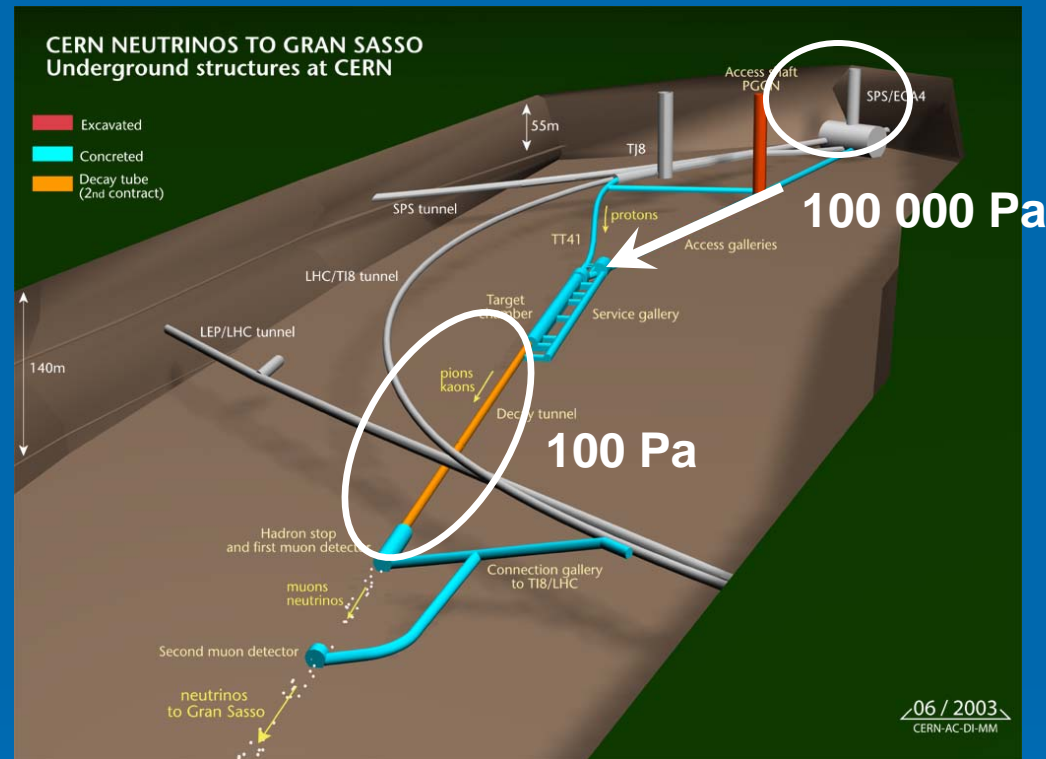




AIRFLOW IN THE CNGS TUNNEL STRUCTURES

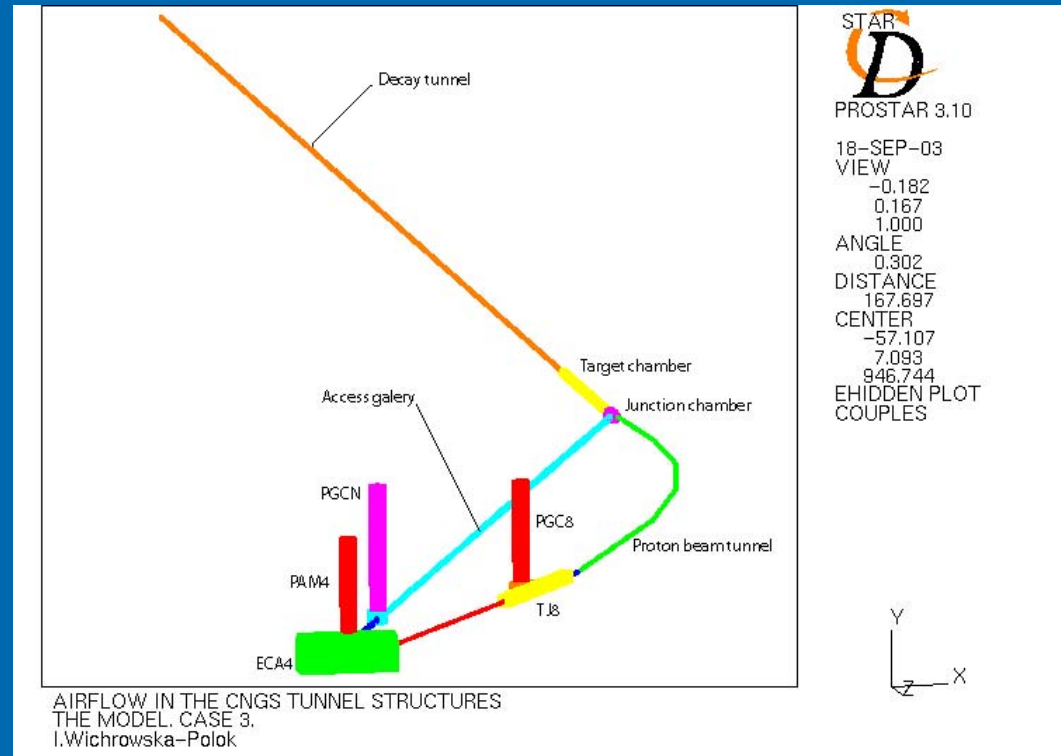
A study for ensured operational safety



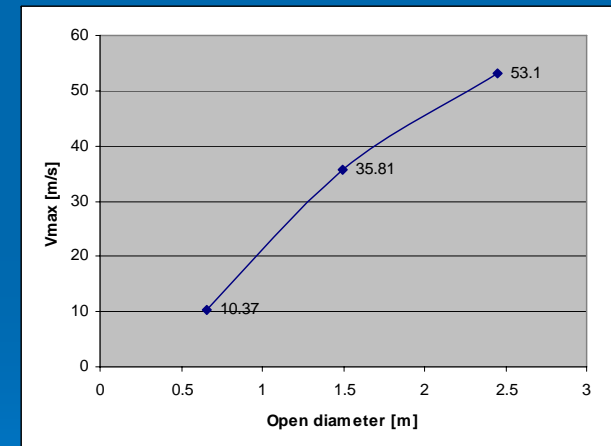
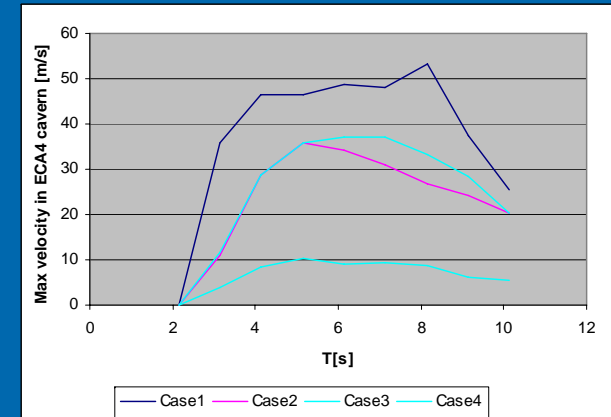
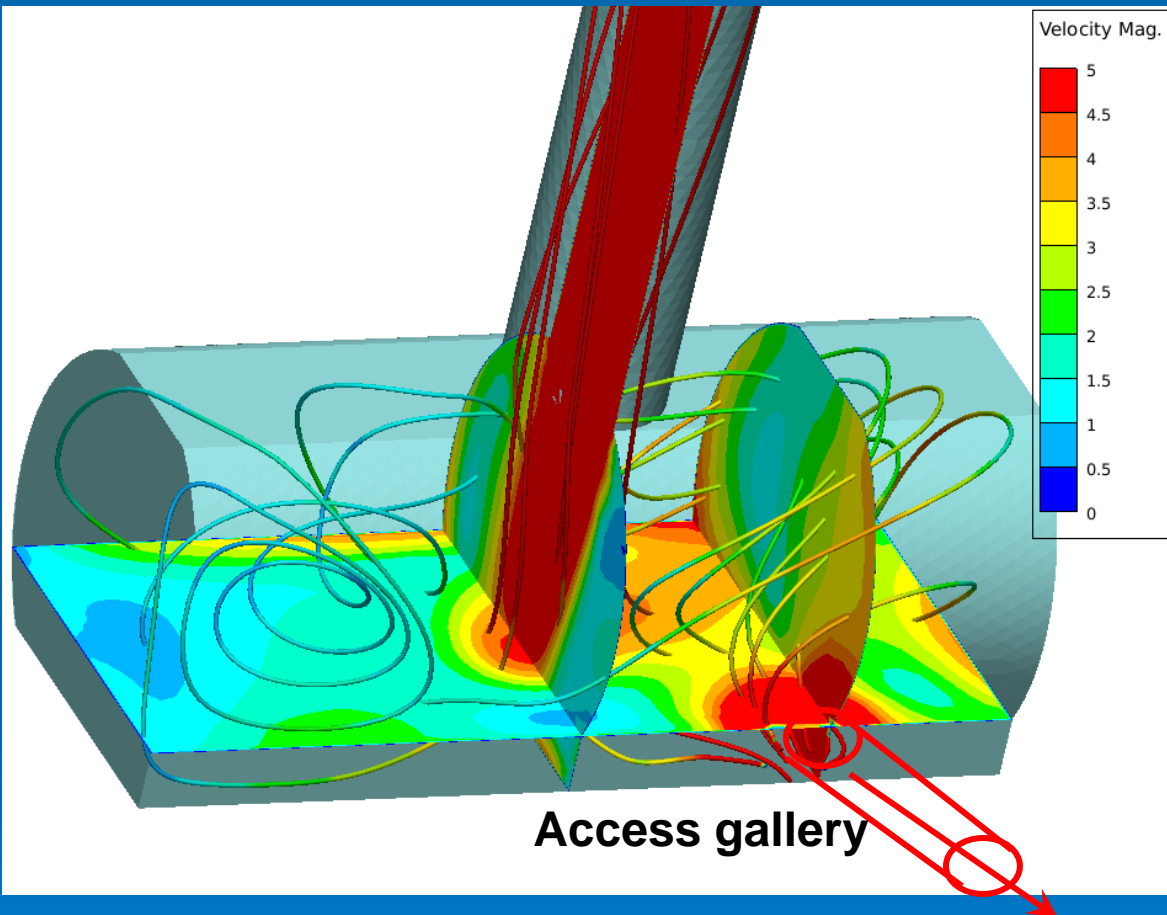
THE PURPOSE

- ✓ To determine velocity and pressure in the ECA4 cavern in case of the rupture of the decay tunnel titanium window.
- ✓ To find a solution to improve the safety conditions in ECA4

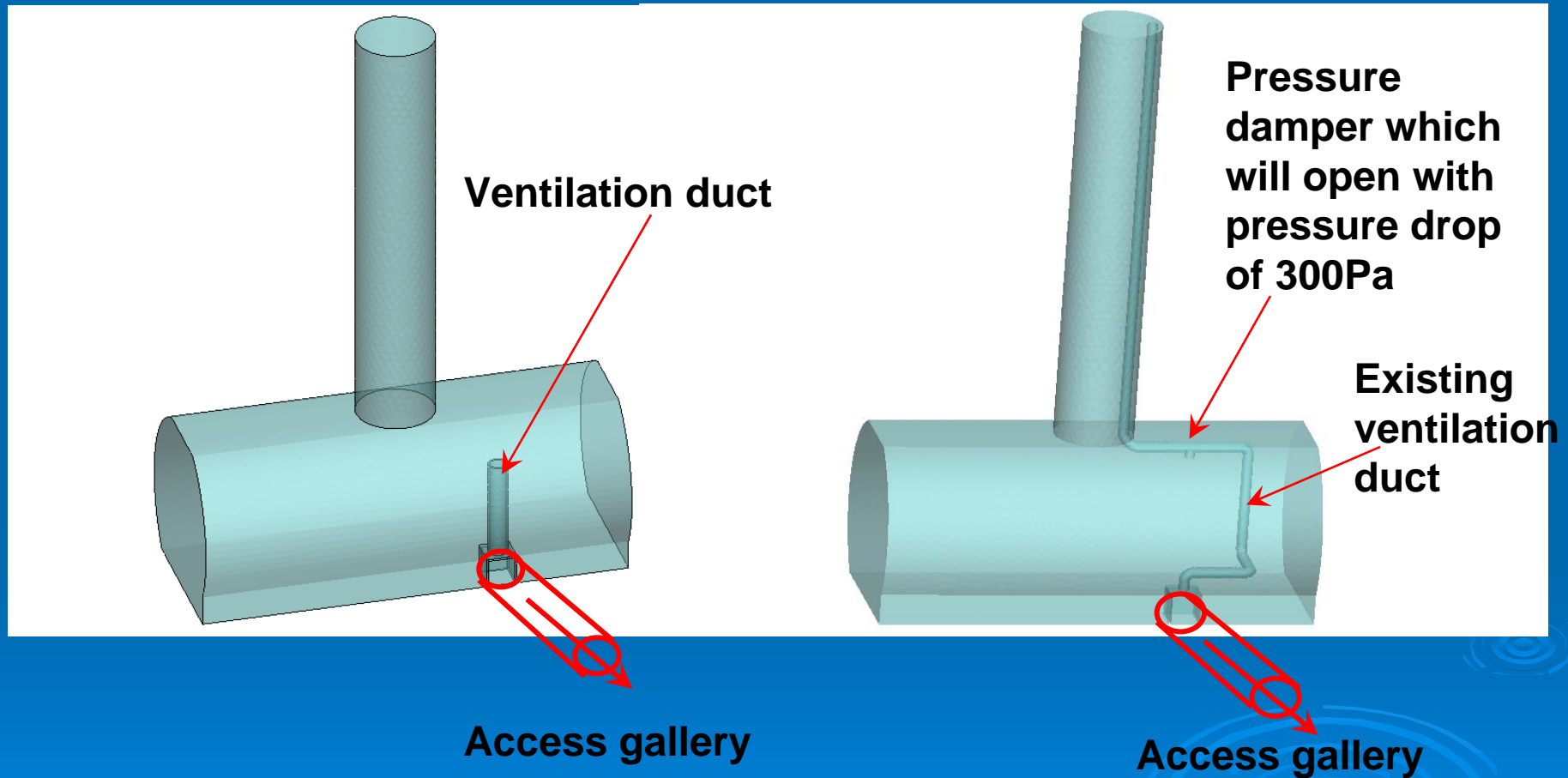
THE MODEL

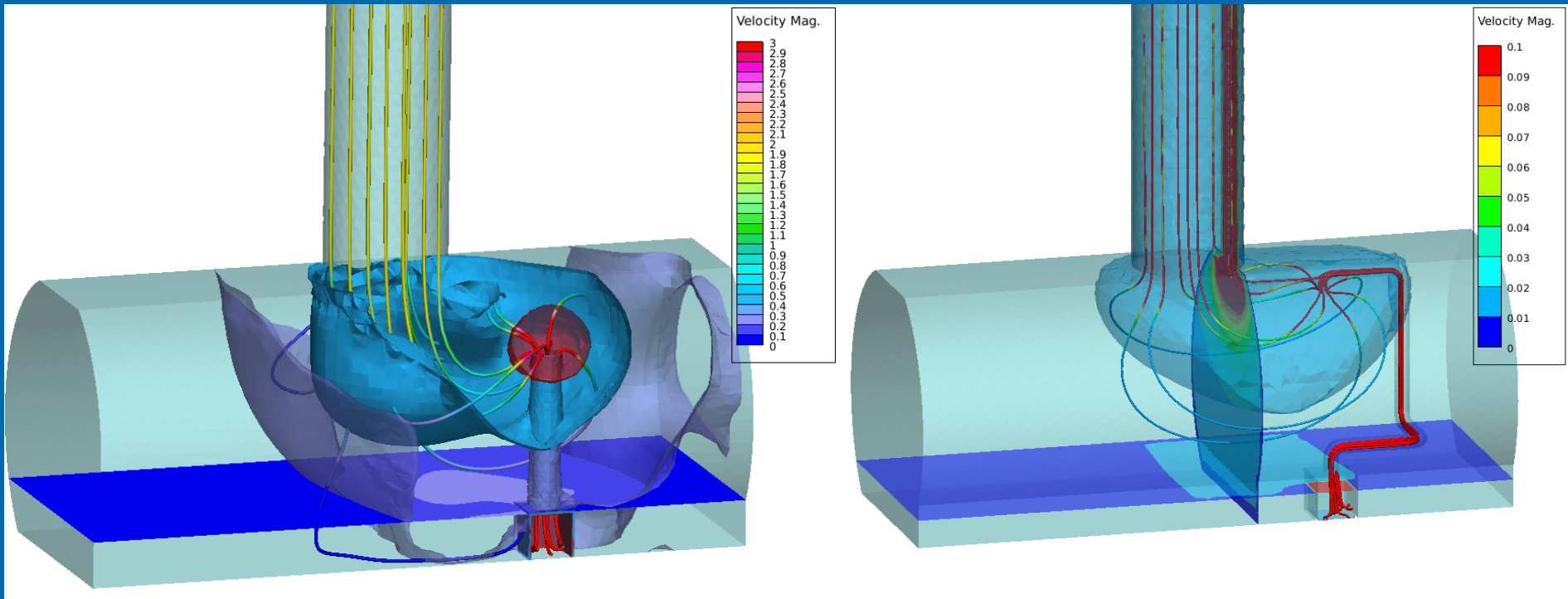


- ✓ Flow medium – air,
- ✓ The flow- transient, compressible, viscous and turbulent,
- ✓ Opened diameter when window breaks:
 - Full 2.45 m of decay tube (*full opening* - pessimistic),
 - Reduced opening models (*30% and 60% of opening*).



- ✓ Maximal velocities 10 to 53m/s depending on window opening;
- ✓ High probability of serious injuries already for 16m/s





- ✓ Maximal velocities about 20m/s close entrances to the ducts
- ✓ And very low velocities at the bottom of the ECA4 cavern
- ✓ For more details: EDMS: 492187