- **From the theoretical point of view the recommended TP meets the requests of the WG**
- **In a second step we have examined how the TP works when applied to real atmospheric dispersion situations.**

Select data from tracer experiments
- carried out at the Research Centre Karlsruhe,
- the Prairie-Grass Experiments
- as well as wind tunnel data
They cover a wide range of different
- thermal stabilities
- roughness lengths
- emission heights

Dispersion calculations were carried out with a particle model

- **Calculated concentrations tend to be slightly overestimated with respect to the measured data.**
- **However, this seems to be acceptable for the application within the frame of regulatory purposes.**
- **<u>Prairie-Grass-Experiments</u>, level terrain, small z_0=0.6m small emission height H≅0.5m, different stabilities expressed as 1/L, source distances 50m, 200m, 800m**
- **Compare plume widths**
  - from concentration measurements
  - with calculated values ◆
- **However, differences between measurements and calculation become larger**
  - with increasing source distance
  - and for unstable stratification
- **Reason: For strong convective situations the TP doesn't take into account the skewness of the**

turbulent velocity distribution . This leads to an overestimation of the calculated concentrations in the case of the Prairie-Grass-Experiments