

Dokumentace k provedené externí spolupráci na projektu MV VG20102013018, Objednávky č. ASIM7002/2012-02 a

JE Temelín

11.února 2013

Výpočty prováděné na webu <https://dss.utia.cas.cz>

Vstupní data (zkopírovaná z dss):

| | |
|-------------------------|--|
| Number of segments: | 6 segments |
| Released nuclides: | ^{87}Kr , ^{133}Xe , ^{135}Xe , $^{85\text{m}}\text{Kr}$, ^{88}Kr , ^{90}Sr , ^{133}I , ^{131}I , ^{135}I , ^{132}I , ^{134}I , $^{131\text{m}}\text{Te}$, ^{134}Cs , ^{136}Cs , ^{132}Te , ^{89}Sr , ^{137}Cs |
| Source coordinates: | Lat: 49.181700 deg Lon: 14.375400 deg |
| Dispersion formula: | Postupně SCK/CEN, Hosker, KFK |
| Inversion layer height: | without inversion |

Zdrojový člen ST-2 (v Bq):

| No. | Nuclide | Seg. 1 | Seg. 2 | Seg. 3 | Seg. 4 | Seg. 5 | Seg. 6 |
|-----|-------------------|----------|----------|----------|----------|----------|----------|
| 1 | ^{87}Kr | 7.03E+15 | 9.84E+16 | 5.63E+15 | 5.63E+15 | 5.63E+15 | 5.63E+15 |
| 2 | ^{133}Xe | 3.21E+14 | 4.49E+17 | 2.58E+16 | 2.58E+16 | 2.58E+16 | 2.58E+16 |

| | | | | | | | |
|----|--------------------|----------|----------|----------|----------|----------|----------|
| 3 | ¹³⁵ Xe | 6.83E+14 | 9.56E+16 | 5.45E+15 | 5.45E+15 | 5.45E+15 | 5.45E+15 |
| 4 | ^{85m} Kr | 3.33E+13 | 4.66E+16 | 2.68E+15 | 2.68E+15 | 2.68E+15 | 2.68E+15 |
| 5 | ⁸⁸ Kr | 1.04E+14 | 1.45E+16 | 8.30E+15 | 8.30E+15 | 8.30E+15 | 8.30E+15 |
| 6 | ⁹⁰ Sr | 4.82E+11 | 1.45E+15 | 6.03E+13 | 6.03E+13 | 6.03E+13 | 6.03E+13 |
| 7 | ¹³³ I | 3.20E+14 | 2.24E+16 | 6.40E+15 | 6.40E+15 | 6.40E+15 | 6.40E+15 |
| 8 | ¹³¹ I | 1.57E+14 | 1.10E+16 | 3.15E+15 | 3.15E+15 | 3.15E+15 | 3.15E+15 |
| 9 | ¹³⁵ I | 3.00E+14 | 2.10E+16 | 6.00E+15 | 6.00E+15 | 6.00E+15 | 6.00E+15 |
| 10 | ¹³² I | 2.28E+14 | 1.60E+16 | 4.55E+15 | 4.55E+15 | 4.55E+15 | 4.55E+15 |
| 11 | ¹³⁴ I | 3.51E+14 | 2.46E+16 | 7.00E+15 | 7.00E+15 | 7.00E+15 | 7.00E+15 |
| 12 | ^{131m} Te | 2.46E+12 | 8.95E+14 | 1.50E+14 | 1.50E+14 | 1.50E+14 | 1.50E+14 |
| 13 | ¹³⁴ Cs | 2.10E+12 | 2.36E+16 | 1.31E+15 | 1.31E+15 | 1.31E+15 | 1.31E+15 |
| 14 | ¹³⁶ Cs | 5.04E+11 | 5.67E+15 | 3.15E+14 | 3.15E+14 | 3.15E+14 | 3.15E+14 |
| 15 | ¹³² Te | 1.80E+13 | 6.50E+15 | 1.10E+15 | 1.10E+15 | 1.10E+15 | 1.10E+15 |
| 16 | ⁸⁹ Sr | 4.49E+12 | 1.35E+16 | 5.63E+14 | 5.63E+14 | 5.63E+14 | 5.63E+14 |
| 17 | ¹³⁷ Cs | 1.32E+12 | 1.48E+16 | 8.23E+14 | 8.23E+14 | 8.23E+14 | 8.23E+14 |

Meteorologická data:

| Hour | Wind direction [deg] | Wind speed [m/s] | Stab. category | Precipitation [mm/h] |
|------|----------------------|------------------|----------------|----------------------|
| 1 | 54.00 | 1.30 | F | 0.00 |
| 2 | 70.00 | 1.50 | F | 0.00 |
| 3 | 87.00 | 1.60 | F | 0.00 |
| 4 | 103.00 | 1.80 | F | 0.00 |
| 5 | 120.00 | 2.00 | F | 0.00 |
| 6 | 136.00 | 2.20 | D | 0.50 |
| 7 | 153.00 | 2.30 | D | 2.00 |
| 8 | 145.00 | 2.30 | C | 5.00 |
| 9 | 137.00 | 2.30 | C | 1.00 |
| 10 | 137.00 | 2.30 | C | 1.00 |
| 11 | 137.00 | 2.30 | C | 1.00 |
| 12 | 137.00 | 2.30 | C | 1.00 |
| 13 | 137.00 | 2.30 | C | 1.00 |
| 14 | 137.00 | 2.30 | C | 1.00 |
| 15 | 137.00 | 2.30 | C | 1.00 |

| Hour | Wind direction [deg] | Wind speed [m/s] | Stab. category | Precipitation [mm/h] |
|-------------|-----------------------------|-------------------------|-----------------------|-----------------------------|
| 16 | 137.00 | 2.30 | C | 1.00 |
| 17 | 137.00 | 2.30 | C | 1.00 |
| 18 | 137.00 | 2.30 | C | 1.00 |
| 19 | 137.00 | 2.30 | C | 1.00 |
| 20 | 137.00 | 2.30 | C | 1.00 |
| 21 | 137.00 | 2.30 | C | 1.00 |
| 22 | 137.00 | 2.30 | C | 1.00 |
| 23 | 137.00 | 2.30 | C | 1.00 |
| 24 | 137.00 | 2.30 | C | 1.00 |
| 25 | 137.00 | 2.30 | C | 1.00 |
| 26 | 137.00 | 2.30 | C | 1.00 |
| 27 | 137.00 | 2.30 | C | 1.00 |
| 28 | 137.00 | 2.30 | C | 1.00 |
| 29 | 137.00 | 2.30 | C | 1.00 |
| 30 | 137.00 | 2.30 | C | 1.00 |

| Hour | Wind direction [deg] | Wind speed [m/s] | Stab. category | Precipitation [mm/h] |
|-------------|-----------------------------|-------------------------|-----------------------|-----------------------------|
| 31 | 137.00 | 2.30 | C | 1.00 |
| 32 | 137.00 | 2.30 | C | 1.00 |
| 33 | 137.00 | 2.30 | C | 1.00 |
| 34 | 137.00 | 2.30 | C | 1.00 |
| 35 | 137.00 | 2.30 | C | 1.00 |
| 36 | 137.00 | 2.30 | C | 1.00 |
| 37 | 137.00 | 2.30 | C | 1.00 |
| 38 | 137.00 | 2.30 | C | 1.00 |
| 39 | 137.00 | 2.30 | C | 1.00 |
| 40 | 137.00 | 2.30 | C | 1.00 |
| 41 | 137.00 | 2.30 | C | 1.00 |
| 42 | 137.00 | 2.30 | C | 1.00 |
| 43 | 137.00 | 2.30 | C | 1.00 |
| 44 | 137.00 | 2.30 | C | 1.00 |
| 45 | 137.00 | 2.30 | C | 1.00 |

| Hour | Wind direction [deg] | Wind speed [m/s] | Stab. category | Precipitation [mm/h] |
|-------------|-----------------------------|-------------------------|-----------------------|-----------------------------|
| 46 | 137.00 | 2.30 | C | 1.00 |
| 47 | 137.00 | 2.30 | C | 1.00 |
| 48 | 137.00 | 2.30 | C | 1.00 |
| 49 | 137.00 | 2.30 | C | 1.00 |
| 50 | 137.00 | 2.30 | C | 1.00 |
| 51 | 137.00 | 2.30 | C | 1.00 |
| 52 | 137.00 | 2.30 | C | 1.00 |
| 53 | 137.00 | 2.30 | C | 1.00 |
| 54 | 137.00 | 2.30 | C | 1.00 |
| 55 | 137.00 | 2.30 | C | 1.00 |
| 56 | 137.00 | 2.30 | C | 1.00 |
| 57 | 137.00 | 2.30 | C | 1.00 |
| 58 | 137.00 | 2.30 | C | 1.00 |
| 59 | 137.00 | 2.30 | C | 1.00 |

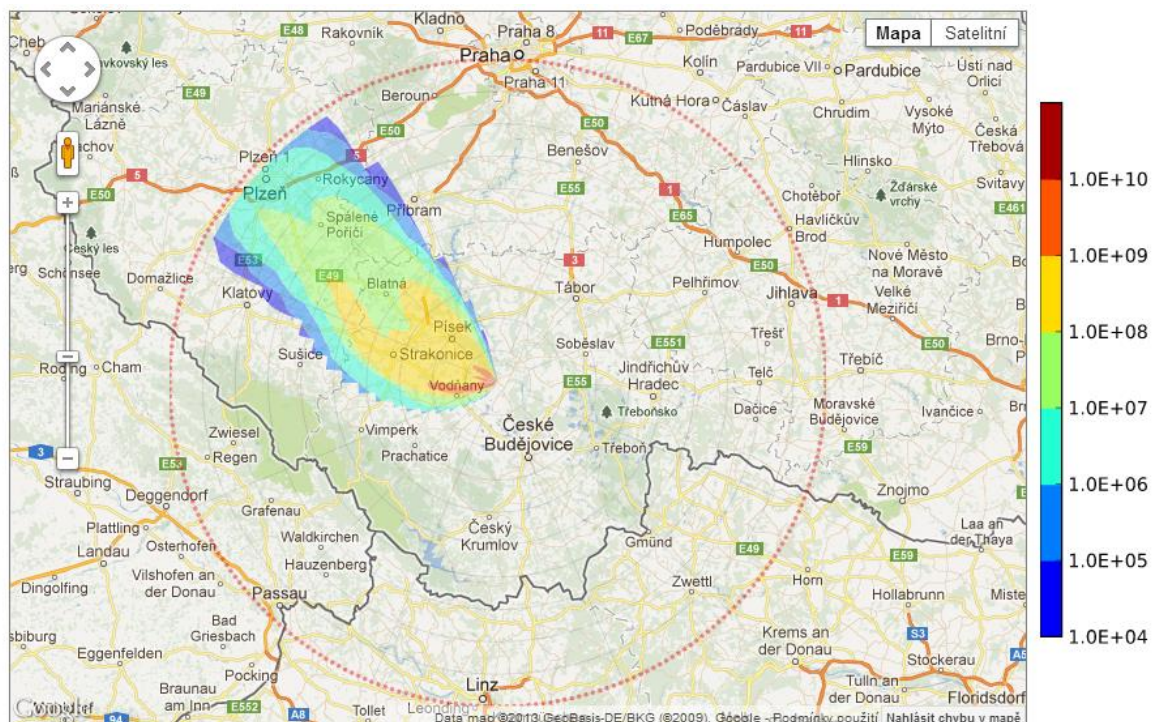
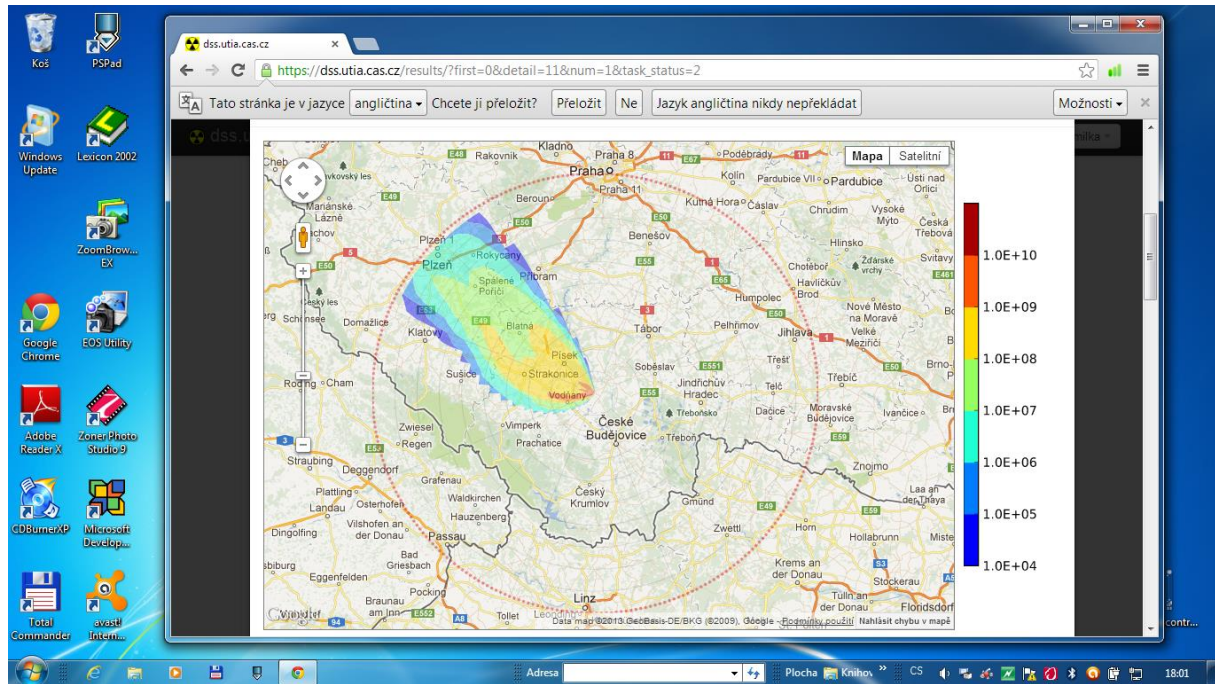
JE Temelín – ukázky výsledků výpočtu – varianty koeficientů rozptylu sigma

Výpočty proběhly se stejnými vstupními daty, měnil se pouze způsob výpočtu koeficientů rozptylu sigma na vstupním panelu.

Obrázky získány přes klávesu Print screen.

Sigma rozptyl. podle SCK/CEN

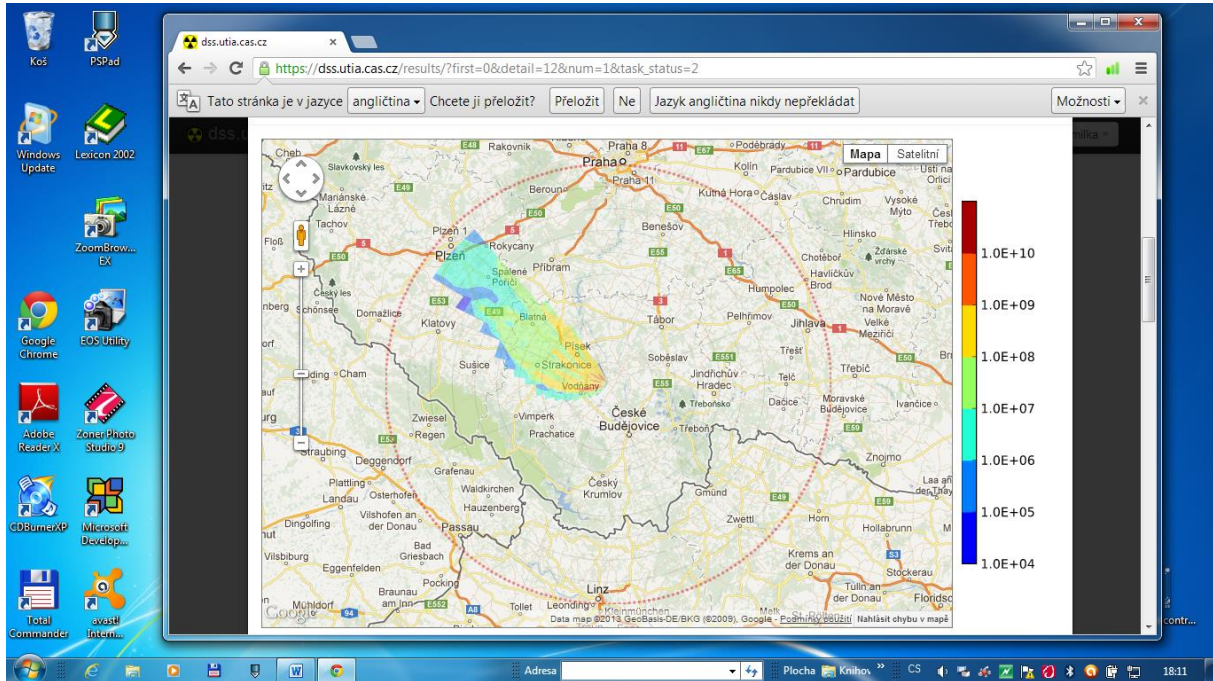
I-131 time integral of near-ground activity concentration in air (Bq.s/m³)



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Sigma rozptyl. podle Hoskera

I-131 time integral of near-ground activity concentration in air (Bq.s/m³)



JE Temelín

Sigma rozptyl. podle KFK/Julich

I-131 time integral of near-ground activity concentration in air (Bq.s/m³)

