***Table 2*** *annual average MACv2 climatology associated aerosol radiative effects for today’s tropospheric aerosol at the top of the atmosphere (TOA), at the surface and (by difference) for the atmosphere. Aside for total aerosol (in row 1) also effects of components and if applicable their anthropogenic contributions are indicated. Considered fine-mode components are sulfate (SU), organic matter (OC), soot (BC) and the combined carbon (OC+BC). Considered coarse-mode components are sea-salt (SS) and dust (DU).*

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| direct  effect  **(W/m2)** | **TOA** | | | | **ATMOSPHERE** | | | | **SURFACE** | | | |
| *total* | | *anthr* | | *total* | | *anthr* | | *total* | | *anthr* | |
| ***all*** | ***clear*** | ***all*** | ***clear*** | ***all*** | ***clear*** | ***all*** | ***clear*** | ***all*** | ***clear*** | ***all*** | ***clear*** |
| **total** | **-1.1** | **-2.3** | **-0.35** | **-0.69** | **+2.9** | **+2.3** | **+1.2** | **+1.2** | **-4.0** | **-4.6** | **-1.6** | **-1.9** |
| ***fine*** | ***-0.80*** | ***-1.5*** | ***-0.36*** | ***-0.70*** | ***+2.3*** | ***+2.4*** | ***+1.1*** | ***+1.2*** | ***-3.1*** | ***-3.9*** | ***-1.5*** | ***-1.9*** |
| - SU | -0.83 | -1.2 | -0.41 | -0.58 | +0.01 | +0.02 | +0.00 | +0.01 | -0.84 | -1.2 | -0.41 | -0.59 |
| - CA | +0.08 | -0.23 | +0.05 | -0.10 | +2.0 | +2.2 | +1.0 | +1.2 | -2.1 | -2.5 | -1.0 | -1.3 |
| - OC | -0.45 | -0.68 | -0.22 | -0.34 | +0.49 | +0.52 | +0.23 | +0.24 | -0.94 | -1.2 | -0.45 | -0.58 |
| - BC | +0.55 | +0.46 | +0.28 | +0.24 | +1.7 | +1.8 | +0.89 | +0.94 | -1.2 | -1.4 | -0.61 | -0.70 |
| - BC\* |  |  | +0.44 | +0.37 |  |  | +1.4 | +1.5 |  |  | -0.97 | -1.1 |
| ***coarse*** | ***-0.34*** | ***-0.77*** | ***+0.02*** | ***+0.02*** | ***+0.66*** | ***+0.14*** | ***+0.13*** | ***+0.04*** | ***-1.00*** | ***-0.91*** | ***-0.11*** | ***-0.03*** |
| - SS | -0.57 | -1.00 |  |  | +0.01 | -0.10 |  |  | -0.58 | -0.90 |  |  |
| - DU | +0.23 | +0.24 | +0.015 | +0.01 | +0.68 | +0.25 | +0.13 | +0.04 | -0.45 | -0.01 | -0.11 | -0.03 |

*\*based on AeroCom 1 - ref year 1750 (and not AeroCom 2 - ref year 1850) anthropogenic BC fine-mode fractions*