

Interactive comment on “A new actinic flux 4π -spectroradiometer: Instrument design and application to clear sky and broken cloud conditions” by E. Eckstein et al.

Anonymous Referee #2

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The present paper describes a newly developed spectroradiometer to measure near UV/visible actinic fluxes and first field observations using it are discussed. The paper is generally well written and deserves publication. However, I recommend the following corrections to the manuscript which may improve its readability and its English:

Specific comments and technical corrections:

(1) page 1948 and later in text: Since you deal with atmospheric and spectrometer stray-light, it is probably worthwhile to use the qualifiers 'atmospheric' or 'spectrometer' whatever is appropriate.

(2) Page 1950: paragraph after eq. (11): correct from model simulation using a delta 4

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stream model (Früh et al., 2000).

(3) Same paragraph: correct toAerosol related albedo effects

(4) Page 1951 just before eq. (13): change to Knowing the correction function....

(5) Page 1952, third paragraph: change toand it is relatively greatest at.....

(6) Page 1952, third paragraph: explain SRJ already there (not at the end of page 1953) because you refer on page 1952 already to Fig. 5 in which the abbreviation SRJ is used.

(7) Page 1954, first paragraph: correct toso this value represents the instrument's detection....

(8) Page 1954, first paragraph and in the second paragraph: correct to....strong solar Ca Fraunhofer lines.... Please refer in a manuscript always to the same notation for the thing

(9) Page 1995; first paragraph: The sentence ..This could be explained....makes no sense....and in English you compare one thing to another...Probably rephrase the whole sentence

(10) Page 1955, 4th paragraph: change to differ in width, make a blank before 420 nm and change towith the main contribution coming from....

(11) Page 1956, first line and in the following text: change residuum to relative departure

(12) Page 1956, first sentence in para 5: Skip the first and second sentence because you already described the BERLIOZ measurements earlier in the text. The change the third sentence to ..measured during BERLIOZ on August, 9, 1998.

(13) Page 1975, first paragraph: You do not need a parametrisation for J(NO₂) under clear skies because you measured it.

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(14) Page 1976, second paragraph, first sentence: change to.....on the actinic fluxes are of the same order (of what ?)....sentence makes no sense

(15) Page 1958, first paragraph: Include a relatively into the sentence. Therefore, at longer wavelength

(16) Page 1958, first paragraph: Skip the last sentence because it makes no sense

(17) Page 1958, second paragraph: change toenclosed in clouds that extended to the ground

(18) Page 1961, first paragraph: add sizeable into the last sentenceAs expected, a sizeable spectral

Interactive comment on Atmos. Chem. Phys. Discuss., 2, 1939, 2002.

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