ESA - albed /epsilon

Správ: (4)

Michal Gallay <michal.gallay@gmail.com> 6. októbra 2018, 23:25
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JAro,

vo vzorci pre LST je albedo alpha a epsilon - emissivity.

Emissivitu aproximujeme cez 1- albedo.
Defacto je teda emissivita vo vzorci dvakrat?

(1-albedo)*I = epsilon*sigma(....

epsilon = 1 - albedo

alebo ako to je? aby som o tom spravne napisal, lebo v dalsom riadku
si pisal, ze

For typical condition of epsilon = 5.5 Wm-2K-1

Jaro Hofierka <jhofierka@gmail.com> 8. októbra 2018, 7:37
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Miso,

ano, thermal emissivity aproximujeme cez 1-albedo. Albedo je solar reflectance/reflectivity pre cele spektrum emg ziarenia. Je to tak preto, lebo nemame udaje o emisivite materialov, ba dokonca ani nevieme o aky material ide. Je to rough estimate, ale hodnoty su v intervale moznych (zvycajne 0.5-0.9).

Tu je jeden z clankov, kde su niektore veci a hdonoty uvedene.

Tu cislo dole nie je emissivity ale radiative heat transfer coeff, kde vstupuje aj ta emissivity. Mozes to vyhodit, zrejme som len chcel s tym nieco skusat.

J.

Michal Gallay napísal(a):
[Citovaný text je skrytý]

THE_IMPACT_OF_REFLECTIVITY_AND_EMISSIVITY_OF_ROOFS.pdf
861K

Jaro Hofierka <jhofierka@gmail.com> 8. októbra 2018, 7:44
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Tu je este vysvetlene pozadie nasho postupu:

A relationship called Kirchoff's Law says that surfaces with high reflectivity (or, roughly, albedo) have low emissivity. This is why survival blankets are silver; they shed less heat through radiation because they have low emissivity. However this relationship does not rigidly hold, and so I tend to refer to it as Kirchoff's Suggestion, rather than a law. In aerospace we use coatings (e.g., Mylar) that often violate Kirchoff's Law intentionally.

https://hk.answers.yahoo.com/question/index?qid=20100511144526AA2gOef

J.

Jaro Hofierka napísal(a):
[Citovaný text je skrytý]

Jaro Hofierka <jhofierka@gmail.com> 8. októbra 2018, 7:53
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A este vzorec:

Kirchhoff’s Law

absorption = e at a specific wavelength
(1-albedo) = e

For an arbitrary body emitting and absorbing thermal radiation in thermodynamic equilibrium, the emissivity is equal to the absorptivity.

To znamena, ze my predpokladame, ze emisssivita je rovna absorbcii.

J.

Jaro Hofierka napísal(a):
[Citovaný text je skrytý]