

PROPOSED MODIS CHANNEL CHANGES

#	λ (μm)	$\delta\lambda$ (μm)	R_{max}	T_{max} (K)	L_{max} (W/m ² μm)
Old 26	4.565	0.050		302	
New 26	1.375(1)*	0.030 (1)	0.80(1)		290
Old 21	3.750	0.050		700	2107
New 21	3.959(3)	0.050		500(2)	268

The current MODIS channel 5 centered at 1.240 μm is set for $R_{max} = 0.51$, which can saturate for some ground targets. It may be necessary to change this channel to $R_{max} = 0.80$. We propose to make this change.

#	λ (μm)	$\delta\lambda$ (μm)	R_{max}	T_{max} (K)	L_{max} (W/m ² μm)
Old 5	1.240	0.020	0.51		236
New 5	1.240	0.020	0.80		380

- (1)* 1st Priority
 (2) 2nd Priority
 (3) 3rd Priority

Attachment #1
 Tech. Team Mtg. - 11/5/92

Date: Mon, 2 Nov 92 10:54:50 EST
To: LSTUART@LTPSUN.GSFC.NASA.GOV (Locke Stuart) From:
bconboy@ltpsun.gsfc.nasa.gov
Subject: clarifications to my recommendations in the last Email

LOCKE,

ATTACHED IS A CLARIFICATION TO WAN'S PREVIOUS MESSAGE.

BARBARA

>From: wan@crseo.ucsb.edu (Zhengming Wan) >Date: Fri, 30 Oct 92
10:34:06 PST

>To: VSALOMONSON@gscmail.nasa.gov

>Subject: clarifications to my recommendations in the last Email >Cc:
bconboy@ltpsun.gsfc.nasa.gov, wan@crseo.ucsb.edu >

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>Dear Team Leader,

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>I apologize for a mix-up in my last Email regarding
recommendations related >to detector "operability". My basic idea
does not change, but I should >clarify my suggestions as follows.

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>Suggestion 1:

>to change bands 20, 22, 23, 29, 31 and 32 with 4-strip independent
detector >elements, respectively. Four elements have same
specifications and share a >same filter, but work independently
within the focal plane. The signals >from these four elements will be
averaged to give a single band signal. It >is expected that signal-to-
noise ratio of the averaged signal will be >increased by a factor of
about 2.

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>Suggestion 2:

>To change one of the above six bands into four 500m resolution
bands by >using 4 smaller square detectors sharing a same filter and
decreasing the >integration time by a factor of 2. This results in only
changes in >electronics and data rate. So cost will increase a little.
Benefits are: >further improvement in detector "operability",
providing a possibility to >make spatial analysis within 1km pixels
with MODIS thermal infrared data, >and to compare with ASTER
thermal infrared band data more easily. It is >expected that the
signal-to-noise ratio at 500m resolution will be decreased >slightly.
But the signal-to-noise ratio at 1km resolution after aggregation >will

Attachment #2
Tel Team Mtg. - 11/5/92

be improved by a factor from 1.4 to 2 compared to the original square >detector at 1km resolution.

>Candidates for this change are band 22 and band 29. >

>Best regards,

>Zhengming Wan

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