

## ISIS - Question #791

### Dawn question about how photomet works in old release vs. current release

2012-04-13 02:29 PM - Janet Barrett

<b>Status:</b> Closed	
<b>Priority:</b> Normal	
<b>Assignee:</b> Janet Barrett	
<b>Category:</b> Applications	
<b>Software Version:</b>	
<b>Description</b> Kris passed on a question that Vishnu Reddy and Lucille Le Corre have about the use of photomet in the current ISIS released version. They are seeing differences between this version and older versions of photomet.  <i>Steps to reproduce:</i>  Kris has provided me with some PVL files to look at and use to answer the questions.	
<b>Related issues:</b> Related to ISIS - Bug #1108: photomet parameters from pvl vs command line <span style="float: right;"><b>Closed</b></span>	

### History

#### #1 - 2012-04-16 12:18 PM - Janet Barrett

I answered questions about the photomet program. Here is the response:

Hi Kris,

I haven't had a chance to look closely at your script yet, but I wanted to answer the questions that Lucille had. Also, I wasn't sure if she is creating the PVL files using your script or if she created them herself.

```
I checked the VIR IR pvl files and I see that they are different from
the FC pvl files we updated some time ago with you.
- VIR pvl has those 2 additional parameters
  Emaref=0.0
  Pharef=30.0
I thought those two parameters are not used anymore in the new
photomet application...
```

The Emaref and Pharef parameters are not required at this point, so you don't have to put them into your PVL. They are still used when calculating normalization at standard conditions and they allow you to define those standard conditions. The normal standard conditions are to set the Pharef parameter equal to the Incrref parameter and set Emaref to 0.0. The software does this automatically, so the user is not required to do this unless they want to change those conditions. You may be thinking of the Hgaref, Wharef, and Bharef parameters that have been removed from the photomet program.

```
- but VIR pvl dont have this one I had to use for FC (I had to add
this one otherwise photomet did not work)
  Albedo=1
```

The user is now required to input a value for the Albedo parameter. There is no default for it.

```
- and VIR IR has instead of      Incmat=0.0 that I used for FC
  Incmat = 89.9999
```

The user is now required to input a value for the Incmat parameter. There is no default for it. I don't know why you have Incmat=89.9999 in your PVL. You would have needed to set that value

for it to be in the PVL.

```
- VIR pvl dont have  
ZeroB0Standard = false
```

If you are using the photomet GUI, then the ZeroB0Standard parameter will have a default of True because of the nature of the radio buttons for the parameter options. If you are not using the photomet GUI when running photomet, then you will need to specify a value for the ZeroB0Standard parameter, because there is no default for it. This is a required parameter.

```
- FC pvl dont have  
PhotoModel = HapkeHen  
but i had PHTNAME=HAPKEHEN ZeroB0Standard=FALSE in the command line  
directly in my FC pipeline. So maybe I have to adjust the pvl file to  
the format we have for VIR so it can work properly ?
```

The photomet program has never recognizes the PhotoModel keyword. You are required to use the PhtName keyword when specifying the name of the photometric model. When you create a PVL, you specify the object by "Object = PhotometricModel". Within that object you then specify the name of the photometric model that you want to use. For example,

```
Object = PhotometricModel  
Group = Algorithm  
PhtName = HapkeHen  
ZeroB0Standard = false  
Wh=0.513  
Hh=0.04  
B0=1.03  
Theta=19.9  
HG1=-0.269  
HG2=0.0  
EndGroup  
EndObject
```

The program still accepts "Name = HapkeHen" in place of "PhtName = HapkeHen" to provide support for older PVL files.

I still need to look through your script to see what you are doing with the PVL files. I'll send a separate email with input on that.

Tammy has some time set aside for me to do some more documentation on photomet for the August release. We are still trying to catch up on other Mantis issues, so the photomet documentation will need to wait.

Janet

**#2 - 2012-04-16 04:00 PM - Janet Barrett**

Kris was satisfied with my answers. He asked me to look at his processing script at `/home/kbecker/Dawn/Processing/bin/dawnpho` to let him know what parameters need to be set for each model when using a combination of command line, PVL file, and GUI.

**#3 - 2012-04-26 11:03 AM - Janet Barrett**

Stuart has asked me to update the documentation for photomet for the May release. I will put some effort into explaining what parameters are needed when using the PVL, GUI, and command line as input. This should satisfy Kris's question.