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Subject: Re: modulo reset

Posted by [Wayne Landsman](#) on Tue, 23 Nov 2004 15:52:53 GMT

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Ralf Schaa wrote:

- > I'm reading out some binary data and the description says this about a
- > data field :
- >
- > in the case of a modulo reset add  $2^{32}$
- >
- > What is this about? googling for "modulo reset" didn't get me far;
- > I only imagine that I need some kind of overflow to get things fixed,
- > but it is very unclear to me what is happening and why ...

Well, my first guess is that you are working with unsigned 32bit integers which have a maximum value of  $2^{32}-1$ , and then resets to zero.

```
STIS>print,2UL^31,2UL^32
2147483648      0
```

The easiest way to correct for this reset would be to use 64 bit integers

```
data = ulong64(datafield) + 2ULL^32
```

A less likely possiblity is that "modulo reset" refers to a 32bit checksum, e.g. as implemented in <http://idlastro.gsfc.nasa.gov/ftp/pro/misc/checksum32.pro> which includes links to more documentation.

Good Luck, --Wayne Landsman

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