
Subject: Re: External development: Populating a complex array in C

Posted by [dg86](#) on Sun, 26 Jul 2015 11:54:55 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Sunday, July 26, 2015 at 6:51:41 AM UTC-4, Heinz Stege wrote:

> On Sat, 25 Jul 2015 23:18:03 +0200, Heinz Stege wrote:

>

>> On Sat, 25 Jul 2015 11:08:28 -0700 (PDT), David Grier wrote:

>>

>>> Alternatively, does anyone know how to convert two IDL_TYPE_FLOAT arrays
>>> into one IDL_TYPE_COMPLEX array along the lines of the COMPLEX(real,imag)
>>> function in IDL?

>>>

>> Yes, here is an example:

>> real=findgen(5)

>> imag=4.-findgen(5)

>> comp=complex(real,imag)

>> help,comp

>> print,comp

>> IDL prints:

>> COMP COMPLEX = Array[5]

>> (0.000000, 4.000000)(1.000000, 3.000000)

>> (2.000000, 2.000000)(3.000000, 1.000000)

>> (4.000000, 0.000000)

>>

> This obviously is not what you wanted to ask for. Sorry for not
> realizing the meaning of "along the lines of".

>

> You may be interested in the function

> IDL_VPTR IDL_CvtComplex(int argc, IDL_VPTR argv[]).

> The External Development Guide says, that this function is the direct
> implementation of the IDL command COMPLEX.

>

> Cheers, Heinz

IDL_CvtComplex() is just what I was looking for. The documentation
for this command is incorrect (wrong function signature) and incomplete
(no examples), but I got it working. Here's a code snippet for my solution:

```
IDL_MEMINT dim[IDL_MAX_ARRAY_DIM];
```

```
IDL_VPTR idl_real, idl_imag, idl_cmp, idl_argv[2];
```

```
char *pr, *pi;
```

```
dim[0] = width; // width and height are defined elsewhere
```

```
dim[1] = height;
```

```
pr = IDL_MakeTempArray(IDL_TYP_FLOAT, 2, dim, IDL_ARR_INI_NOP, &idl_real);
```

```
pi = IDL_MakeTempArray(IDL_TYP_FLOAT, 2, dim, IDL_ARR_INI_NOP, &idl_imag);
```

```
idl_argv[0] = idl_real;
```

```
idl_argv[1] = idl_imag;
```

```
// Put data into idl_real and idl_imag -- I used cudaMemcpy() for my application
```

```
idl_cmp = IDL_CvtComplex(2, idl_argv, NULL);
```

```
// Free temporary resources
```

```
IDL_Deltmp(idl_real);
```

```
IDL_Deltmp(idl_imag);
```

Many thanks for pointing me in the right direction.

All the best,

David
