

GammaLib - Action #2285

Add GSkyMap::array() method to Python interface

12/01/2017 02:47 PM - Knödlseeder Jürgen

Status:	Closed	Start date:	12/01/2017
Priority:	Normal	Due date:	
Assigned To:	Knödlseeder Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	1.5.0		
Description			
Add a GSkyMap::array() method to the Python interface that returns a list of lists that can be directly displayed using the matplotlib imshow() function.			

History

#1 - 12/01/2017 03:56 PM - Knödlseeder Jürgen

- Status changed from New to Closed

- % Done changed from 0 to 100

I added the following code to the GSkyMap.i interface

```
%extend GSkyMap {
...
// Add pixel access operator as Python array
PyObject* array(const int& imap = 0) {
    if (imap < 0 || imap >= self->nmaps()) {
        throw GException::out_of_range("GSkyMap::array(int&)", "Map index",
            imap, self->nmaps());
    }
    PyObject* array = PyList_New(self->ny());
    int offset = imap * self->nx() * self->ny();
    for (int iy = 0; iy < self->ny(); ++iy, offset += self->nx()) {
        PyObject* row = PyList_New(self->nx());
        for (int ix = 0; ix < self->nx(); ++ix) {
            PyList_SetItem(row, ix, PyFloat_FromDouble((self->pixels())[ix+offset]));
        }
        PyList_SetItem(array, iy, row);
    }
    return array;
}
};
```