NAME

xil_subtract, xil_subtract_const, xil_subtract_from_const – image subtraction operations

SYNOPSIS

```
#include <xil/xil.h>

void xil_subtract (XilImage src1,
        XilImage src2,
        XilImage dst);

void xil_subtract_const (XilImage src1,
        float *constants,
        XilImage dst);

void xil_subtract_from_const (float *constants,
        XilImage src1,
        XilImage dst);
```

DESCRIPTION

xil_subtract () performs a pixel-by-pixel subtraction of the *src2* image from the *src1* image and stores the result in the *dst* (destination) image. If the result of the operation is out of range for a particular data type, the result is clamped to the minimum or maximum value for the data type. Results for XIL_BYTE operations, for example, are clamped to 0 if they are less than 0 and 255 if they are greater than 255.

xil_subtract_const () performs a pixel-by-pixel subtraction of the *constants* values from the *src1* image and stores the result in the *dst* (destination) image. For an n-band image, n float values must be provided, one per band. The value in *constants[0]* is subtracted from the values in band 0 of *src* and so on. If the result of the operation is out of range for a particular data type, the result is clamped to the minimum or maximum value for the data type. Results for XIL_BYTE operations, for example, are clamped to 0 if they are less than 0 and 255 if they are greater than 255.

xil_subtract_from_const () performs a pixel-by-pixel subtraction of the *src1* image from the *constants* values and stores the result in the *dst* (destination) image. For an n-band image, n float values must be provided, one per band. The values in band 0 of *src* are subtracted from the value in *constants[0]* and so on. Resulting pixel values are rounded and clipped according to image data type.

ERRORS

For a complete list of XIL error messages by number, consult Appendix B of the *XIL Programmer's Guide.*

EXAMPLES

Subtract *image2* from *image1* and store the result in *dst* :

```
XilImage image1, image2, dst;

xil_subtract(image1, image2, dst);
```

Subtract *constants* values from 4-band *image1* and store the result in *dst* :

```
XilImage image1, dst;
float constants[4];
```

```
constants[0] = 1.0;
constants[1] = 1.0;
constants[2] = 1.0;
constants[3] = 0.0;
xil_subtract_const(image1, constants, dst);
```

Subtract 4-band *image1* from *constants* values and store the result in *dst* :

```
XilImage image1, dst;
float constants[4];

constants[0] = 255.0;
constants[1] = 255.0;
constants[2] = 255.0;
constants[3] = 255.0;
xil_subtract_from_const(constants, image1, dst);
```

NOTES

Source and destination images must be the same data type and have the same number of bands. In-place operations are supported.

SEE ALSO

xil_add(3), **xil_add_const**(3).