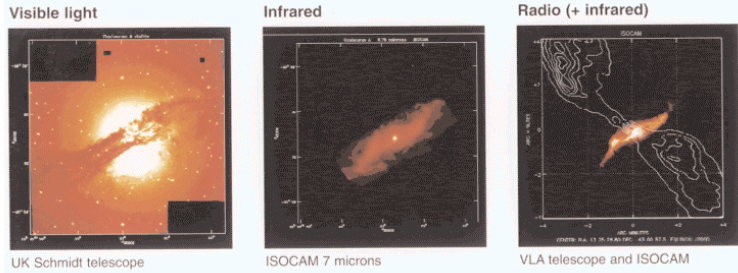


## 1 - Imaging - Images



- Astronomical data can be obtained across the entire electromagnetic spectrum and used to produce images - in this case of two colliding galaxies



**Keywords**  
Astronomy  
Data  
Image  
Electromagnetic spectrum

1.05

## 1 - Imaging - Processing



- False colour: the usefulness of some images can be improved by adding false colour. One way this can be done is to assign colour values to ranges of byte values.
- This enables us to have a visual impression of an image created with what to humans is invisible radiation.
- Images can be made of theories as well as of things. These images will usually be computer generated.

**Keywords**  
False colour  
Image processing

1.07

## 1 - Imaging - CCD



- In a digital camera a real image is formed on an electronic sensor known as a charge coupled device (CCD).
- This consists of an array of light-sensitive elements. Each element acquires an electronic charge in proportion to the light energy it absorbs.
- Pulses in proportion to the charges are read out and used to produce a TV picture, either directly or after being stored on magnetic tape or electronically.

**Keywords**  
CCD  
Charge  
Sensor

1.06

## 1 - Imaging - Prefixes



Power of ten	Prefix	Symbol
$10^{-18}$	atto	a
$10^{-15}$	femto	f
$10^{-12}$	pico	p
$10^{-9}$	nano	n
$10^{-6}$	micro	m
$10^{-3}$	milli	m
$10^{+3}$	kilo	k
$10^{+6}$	mega	M
$10^{+9}$	giga	G
$10^{+12}$	tera	T
$10^{+15}$	peta	P

**Keywords**  
Kilovolt  
Millivolt  
Nanometre

1.08