Minutes of the Ordinary Meeting of the Cape Centre, held at the SAAO at 8pm on 9th May 1984.

The meeting was opened by the chairman and after welcoming everyone the minutes of the previous meeting were read and accepted. It was announced that there was a notice on the notice board from the Director of variable star observing, and that there would be a committee meeting on Monday 14th May.

The director of observations mentioned that the expedition to the Swartberg had largely been clouded out, but some observation had been made. At the informal meeting on 30th May Peter Jacobsz would demonstrate how to align a telescope. The Cape Observer would also be available then.

The speaker was Dr Mack on Charge Coupled Device Cameras for Astro Photography.

The charge coupled device was first suggested by Boyle and Smith in 1970, and in the same year a 3 pixel (or element) device was built. Four years later a 320 x 512 pixel device was available with a pixel size of 0,03 mm. Its main use in astronomy is for faint objects in crowded fields, for light level work. The device is a type of silicon chip. Light falling on it liberates a photo electron to the nearest pixel, filling a potential well. These potential wells are then clocked out, and their position and intensity stored on a computer where it can easily be manipulated. Once the shutter is closed

One type, The interline transfer array system has many gaps in the picture but can be clocked out in about a microsecond, whereas the frame transfer array system has a complete picture so it can be used for astronomical work but takes about 18 seconds to clock out.

To get a good dynamic range the pixels should be large, but to get a good resolution the pixels should be small. There are numerous problems associated with CCD's such as photon noise, Bias level noise, shot noise and dark current error. Since the dark current error improves by a factor of 2 per 10°c temperature drop, the units are operated at near the lowest temperture at which information ceases to be transfered out of the chip.

The CCD with its high quantum efficiency and good stability will do as much for astronomy today as the photographic plate has done in the past.

After Mr Jurk thanked the speaker the meeting closed for tea at 10pm.

Signed as correct . . . . . Chairman.