ZBL141X.pdf

A feasibility check and design hints are wanted for the proposed Simplex Electronic Telescope (SET) as sketched below.

The telescope is based on a conventional reflector telescope, with a concave mirror at the end of a tube focussing a distant image. Instead of a secondary mirror, the SET has an electronic image sensor (EIS, typically a CCD or CMOS device) as used in digital cameras or video cameras.

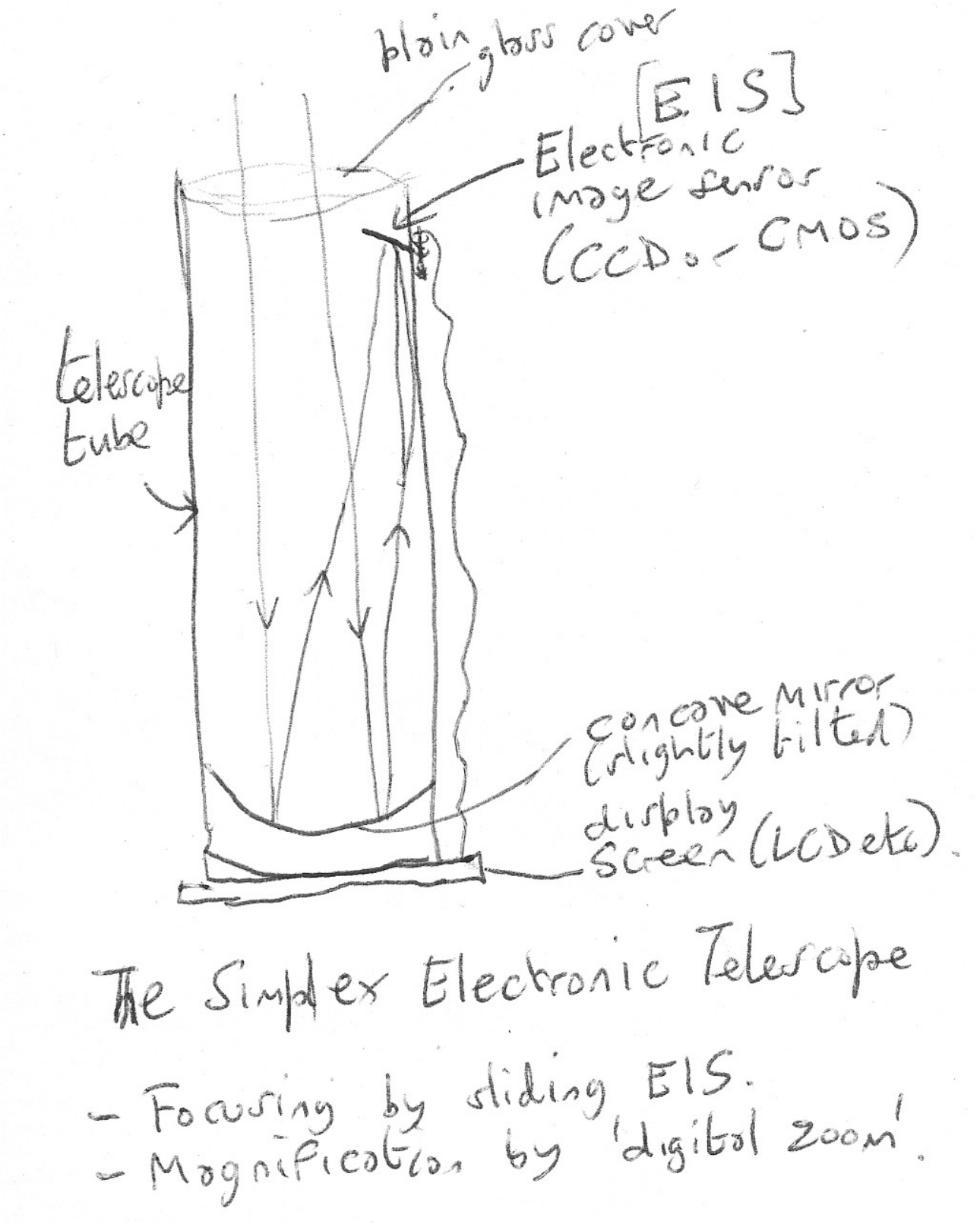
The mirror might be of parabolic or spherical cross-section.

Input from the EIS is fed directly to form the image on a screen (such as an LCD). For most applications, the image will be inverted so it appears upright. The screen may be behind the telescope tube or may be separate, according to the application.

The telescope could be usable for astronomical viewing and/or closer viewing, as for a security system. For a convenient hand instrument, the screen may be of similar size to the telescope tube end, and the device could be held by a handle as on a megaphone.

Focussing can be achieved by sliding the EIS up or down in the ray path. Magnification can be by 'digital zoom', just presenting an enlarged version of part of the image.

To combat excessive pixellation with digital zoom, it may be possible to use EIS devices with higher resolution of detector sites towards the centre.



For a reference on EISs (electronic image sensor, usually a charge coupled device (CCD) or a CMOS sensor), see http://en.wikipedia.org/wiki/Camera.