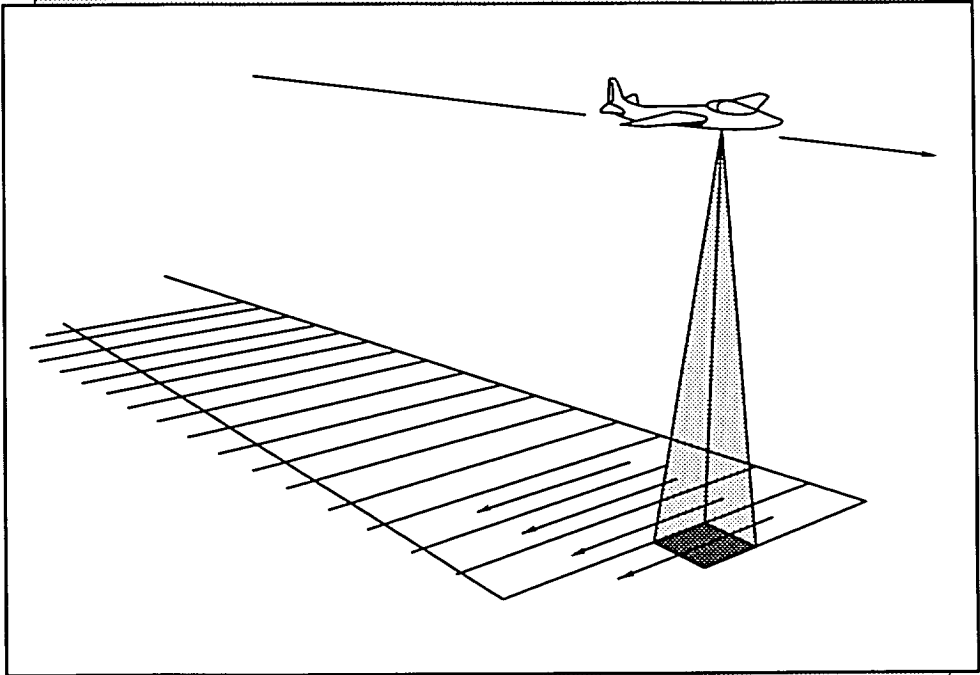


**Figure 4 Operation of an Airborne Linescanner**



A mirror rotating perpendicular to the line of flight provides the across-track dimension of the imagery. The along-track dimension of the imagery is provided by the motion of the aircraft. (© 1979 by Board of Regents of the University of Wisconsin System. Used with permission.)

Radars use radiation with wavelengths roughly two orders of magnitude longer than those used by photographic and thermal infrared systems. This long wavelength radiation provides imaging radars with their all-weather capability. It also means that the spatial detail that can be recorded is much less than that available using optical sensors. Good spatial resolution for a commercially available SAR is measured in metres, not centimetres.

SAR systems provide real-time, on-board digital processing so that imagery can be viewed immediately on a video monitor or output to a hard copy (dry silver paper) with only a few minutes delay. It is also possible to down-link the data to a ground-based receiving station in real time. The imagery will usually be recorded onto digital tape to allow for further processing and analysis at a later time.