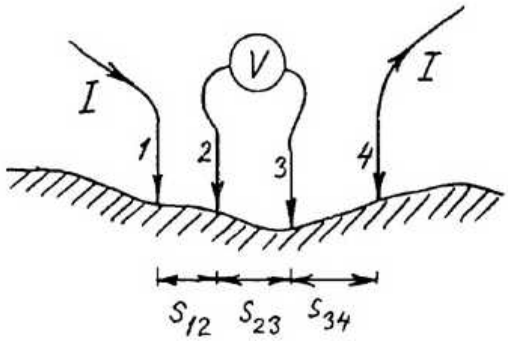
In words: We can deliberately exchange the current contact pair and the voltage contact pair, using the same correction factor G.

A.2) Four Points in a Line.

In semiconductor resistivity measurements the most common arrangement of the four points is in a line. This arrangement will be dealt with exclusively in the following. Normally, the outer contacts conduct the current and voltage is measured between the inner points as shown in figure 3.

Figure 3:



In practice, the contacts are produced by four probes with parallel movements as indicated. The resistivity is :

$$\rho = G \frac{V}{I},$$

where the correction factor G is a function of sample geometry, the position of the probes on the sample, and the spacings between probes. Normally, equal probe spacing $s_{12} = s_{23} = s_{34} = s$ is aimed at.

The very important task of calculating the correction factor G for various shapes and dimensions has been performed during the last decade for most practical applications. The results of highest interest for our application are compiled on the following pages. Where no other statement is made, it is assumed that the four points are in a line and are equi-distant. As above, we will consider homogeneous samples only.