A lecture experiment on diathermancy

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action on the coherer; and hence the arrangement was used for some quantitative determinations.

The refractive indices of a series of solid and liquid substances were determined. The following values were obtained for the wavelength in question corresponding to a value of $N=37\cdot500 \times 10^6$.

Paraffine.....	$n=1\cdot524$	$n^2=2\cdot32$
Ebonite	1\cdot739	3\cdot02
Crown-glass	2\cdot381	5\cdot16
Flint-glass	2\cdot849	8\cdot41
Sulphur	1\cdot802	3\cdot24
Benzole	1\cdot767	3\cdot13
Glycerine	1\cdot843	3\cdot4
Oil of turpentine	1\cdot782	3\cdot17
Vaseline	1\cdot626	2\cdot65
Oil of almonds	1\cdot734	3\cdot01
Absolute alcohol	2\cdot568	6\cdot60
Distilled water	8\cdot972	80\cdot45

— *Wiener Berichte*, July 1896.

A LECTURE EXPERIMENT ON DIATHERMANCITY.

BY DR. SILVIO LUSSANO.

A very simple and elegant method of showing to a large audience the transparency or opacity of bodies for calorific radiations is the following, which is based on the change of colour some substances experience by variations of temperature.

Double iodide of silver and mercury is prepared in a fine powder. At the ordinary temperature it has a beautiful canary-yellow colour, changing to a purple-red at the temperature of about 49° , and resuming its original colour when cold. This double iodide is prepared by mixing in molecular proportions the two substances HgI_2 and $2AgI$, then adding to the mixture alcohol which partly dissolves the mercuric iodide; the magma is then well stirred together in a mortar, alcohol being added from time to time. The mixture, which at first is red, then changes to orange, and, after some time, becomes of a canary-yellow colour; the alcohol is allowed to evaporate, the magma being stirred all the time.

The double iodide thus prepared is spread on cardboard, forming a screen of a canary-yellow colour sensitive to calorific radiations. If, then, this is placed below a metal ball strongly heated, the colour of the screen changes, showing the heating due to the radiations. The same thing takes place if a plate of ebonite is interposed between the ball and the screen; but if a plate of a substance opaque to thermal radiations is placed on the ebonite, the shadow of this plate is projected on the screen, showing a yellow colour on a red ground. In this way it can be understood that it is easy to obtain the projections of athermanous substances enclosed between two ebonite plates.—*Communicated by the Author from 'Il Nuovo Cimento,'* May 1896.