**Laser Raman facility – usage costs**

We don’t currently have a service contract for this facility – if we did the costs would be £13k p.a. including parts but not lasers.

The cost of equipment maintenance is calculated based on the cost of a replacement item bought from Renishaw (costs as on 25/1/13) and the item’s expected lifetime.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Replacement cost / £ | Expected lifetime / yrs | Cost per year |
| UV laser | 25000 | 5000 h ~ 3 years | 8333 |
| IR laser | 7000 | 5000 h ~ 3 years | 2333 |
| Green laser | 10000 | 5000 h ~ 3 years | 3333 |
| Plasma filter (uv) | 2000 | 5 | 400 |
| Plasma filter (green) | 2000 | 5 | 400 |
| Notch filter (green) | 8000 | 3 | 2667 |
| Notch filter (ir) | 8000 | 3 | 2667 |
| Grating (green/ir, 1200 l/mm) | 2500 | 5 | 500 |
| Grating (uv, 3600 l/mm) | 3500 | 5 | 700 |
| xyz-stage & controller | 18000 | 5 | 3600 |
| Preslit lens (uv) | 600 | 5 | 120 |
| CCD camera | 19000 | 5 | 3800 |
|  |  |  |  |
| Service Engineer visit |  | 1 per year | 1000 |
| **TOTAL** |  |  | **28853** |

So, for a project that uses the Raman system for 10% of the time (*e.g*. one afternoon a week), the cost should be: **£2885 a year**.

Assuming 250 working days per year, this is **£115 per day**.

Note: This does not include estates costs or personnel costs (e.g. technicians to set-up and run the machine). If the system is to be used by groups other than the diamond group, the ‘book-out rate’ for the machine will be increased by the technician’s time and overheads (£30511 p.a. for 100% of time). For example, the total book-out rate for 10% usage would be £5571 p.a.

For internal and external usage we also need to cost in the fact that the SoC and UoB take money for Indirect Costs. The split is Group:Soc:UoB=40:30:30, which works out at: 115:86:86, making a total charge-out cost of **£287 per day**.