```
1   function SourceFlux, sourcemap, sourcerate, map=map
2
3   ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
4   ;;
5   ;; Given a sourcemap structure and (optionally) the source rate, returns
6   ;; the peak flux. If sourcerate is not given, assumes = 1e26
7   ;;
8   ;; Note - currently assumes that planet = Mercury
9   ;;
10  ;; Keyword output:
11  ;;    map = re-normalized flux map with maximum=peakflux
12  ;;
13  ;; Version History
14  ;;    1.0: written 8 Nov 2011
15  ;;
16  ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
17
18  if (sourcerate EQ !null) then sourcerate = 1e26
19
20  dlon = (*sourcemap.longitude)[1]-(*sourcemap.longitude)[0]
21  dlat = (*sourcemap.latitude)[1]-(*sourcemap.latitude)[0]
22  dcos = one(*sourcemap.longitude) # cos(*sourcemap.latitude)
23
24  maptotal = total(*sourcemap.map*dcos) * (!Mercury.radius*1e5)^2 * dlon * dlat
25  map = *sourcemap.map * sourcerate/maptotal
26  peakflux = max(map)
27
28  return, peakflux
29
30  end
31
32
```