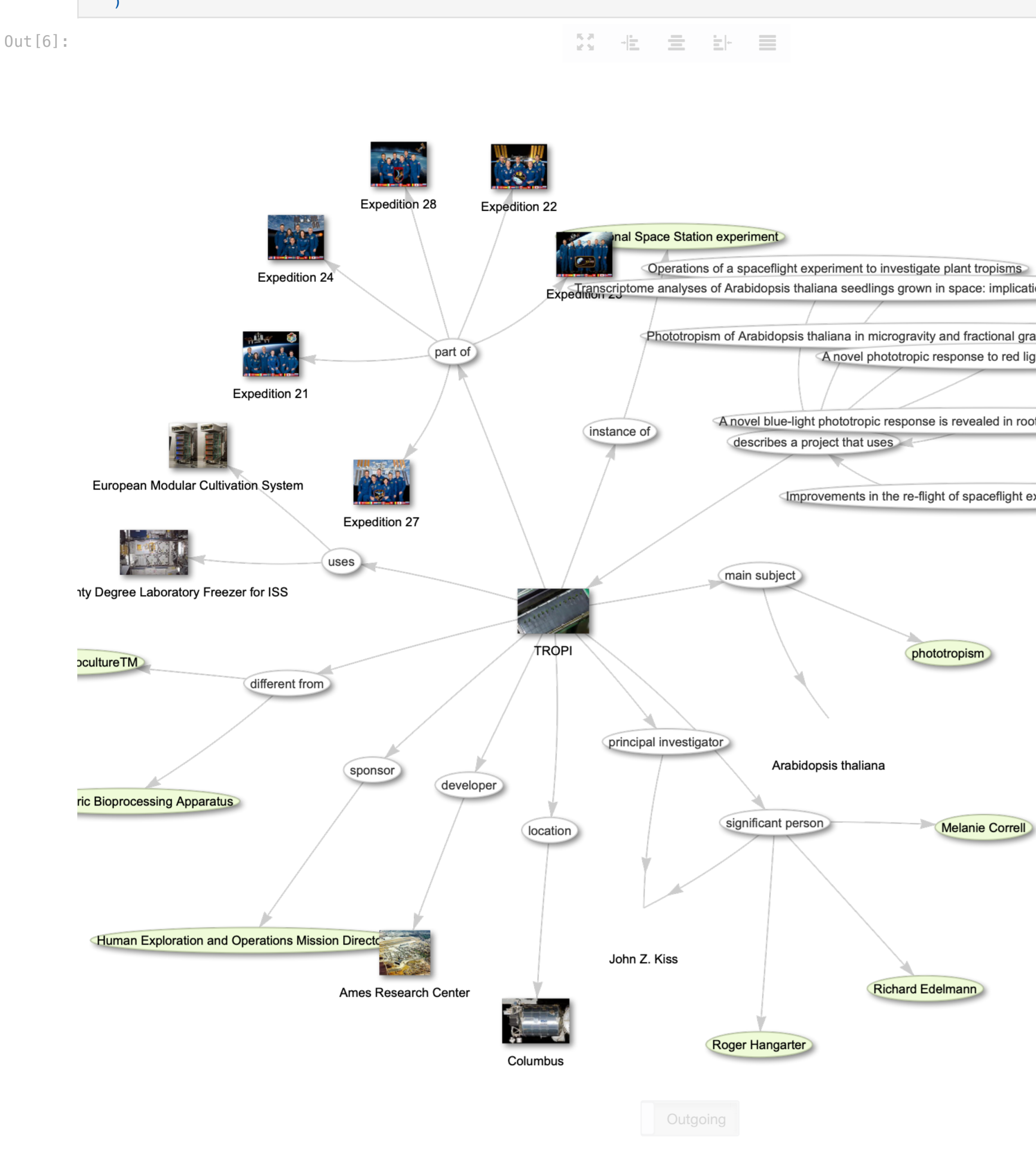


## Examples of ISS queries on Wikidata

```
In [12]: import urllib.parse
from IPython.display import IFrame
baseurl="https://query.wikidata.org/embed.html#"
def wdq(query="",width=800,height=500):
    return IFrame(baseurl+urllib.parse.quote(query), width=width, height=height)
```

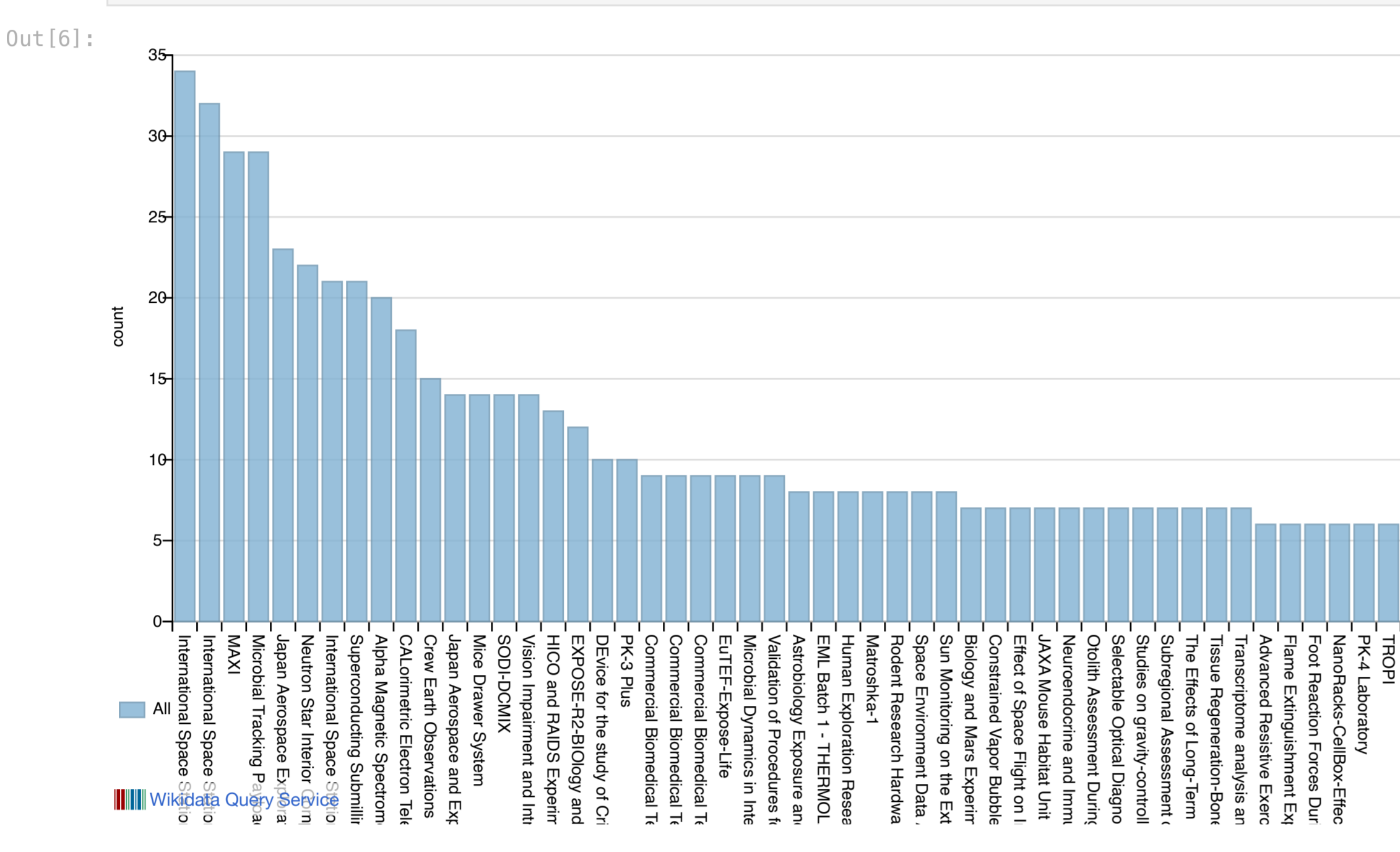
## Connections with TROPI experiment in Wikidata

```
In [16]: wdq(width=1000,height=1000,query=""
# TROPI
#defaultView:Graph
SELECT ?node ?nodeLabel ?nodeImage ?childNode ?childNodeLabel ?childNodeImage ?rgb WHERE {
  {
    BIND(wd:Q7671448 AS ?node)
    ?node ?p ?i.
    OPTIONAL { ?node wdt:P18 ?nodeImage. }
    ?childNode ?x ?y.
    ?childNode rdt:type wikibase:Property.
    FILTER(STRSTARTS(STR(?i), "http://www.wikidata.org/entity/Q"))
    FILTER(STRSTARTS(STR(?childNode), "http://www.wikidata.org/entity/P"))
  }
  UNION
  {
    BIND("EFPD8" AS ?rgb)
    BIND(wd:Q7671448 ?p ?childNode.
    OPTIONAL { ?childNode wdt:P18 ?childNodeImage. }
    ?node ?x ?y.
    ?node rdt:type wikibase:Property.
    FILTER(STRSTARTS(STR(?childNode), "http://www.wikidata.org/entity/Q"))
  }
  UNION
  {
    BIND("EFPD8" AS ?rgb)
    BIND(wdt:P4510 AS ?p)
    BIND(wd:Q7671448 ?p ?childNode.
    ?childNode ?x ?y.
    ?childNode rdt:type wikibase:Property.
    FILTER(STRSTARTS(STR(?node), "http://www.wikidata.org/entity/Q"))
  }
  UNION
  {
    BIND(wd:P4510 AS ?node)
    BIND(wd:Q7671448 AS ?childNode)
  }
  OPTIONAL {
    ?node wdt:P18 ?nodeImage.
    ?childNode wdt:P18 ?childNodeImage.
  }
  SERVICE wikibase:label { bd:serviceParam wikibase:language "en". }
}
""")
```



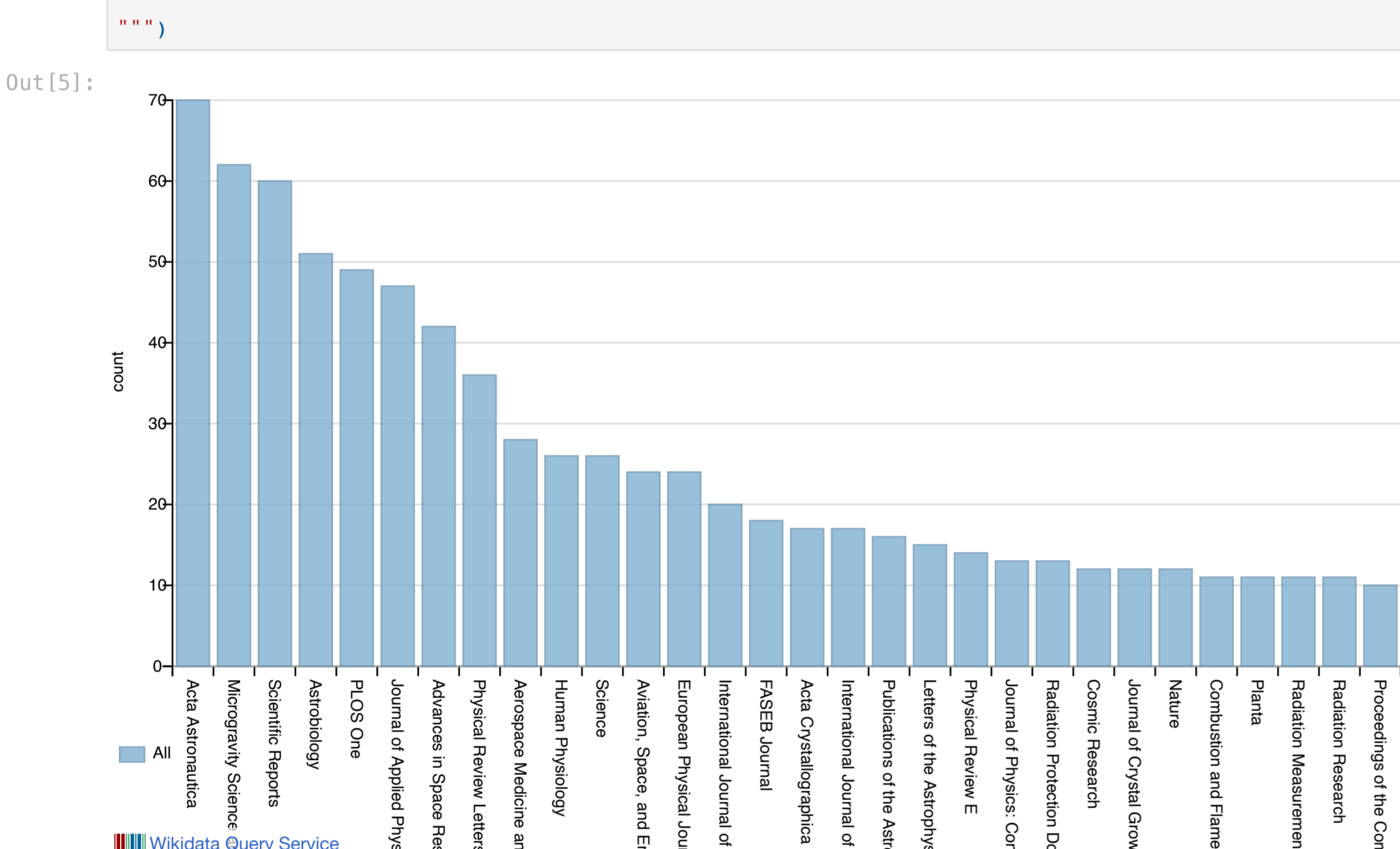
## ISS experiments with the most results publications

```
In [16]: wdq("""
# Histogram of most cited ISS experiments
#defaultView:BarChart
SELECT ?q ?qLabel ?on (COUNT(?q) as ?count) WHERE {
  ?item wdt:P31 wd:Q13442814 .
  ?item wdt:P4510 ?q .
  ?q wdt:P31 wd:Q108572660 .
  OPTIONAL { ?q wdt:P1448 ?on . }
  SERVICE wikibase:label { bd:serviceParam wikibase:language "AUTO_LANGUAGE,en". }
}
GROUP BY ?q ?qLabel ?on
ORDER BY DESC (?count)
LIMIT 50
""")
```



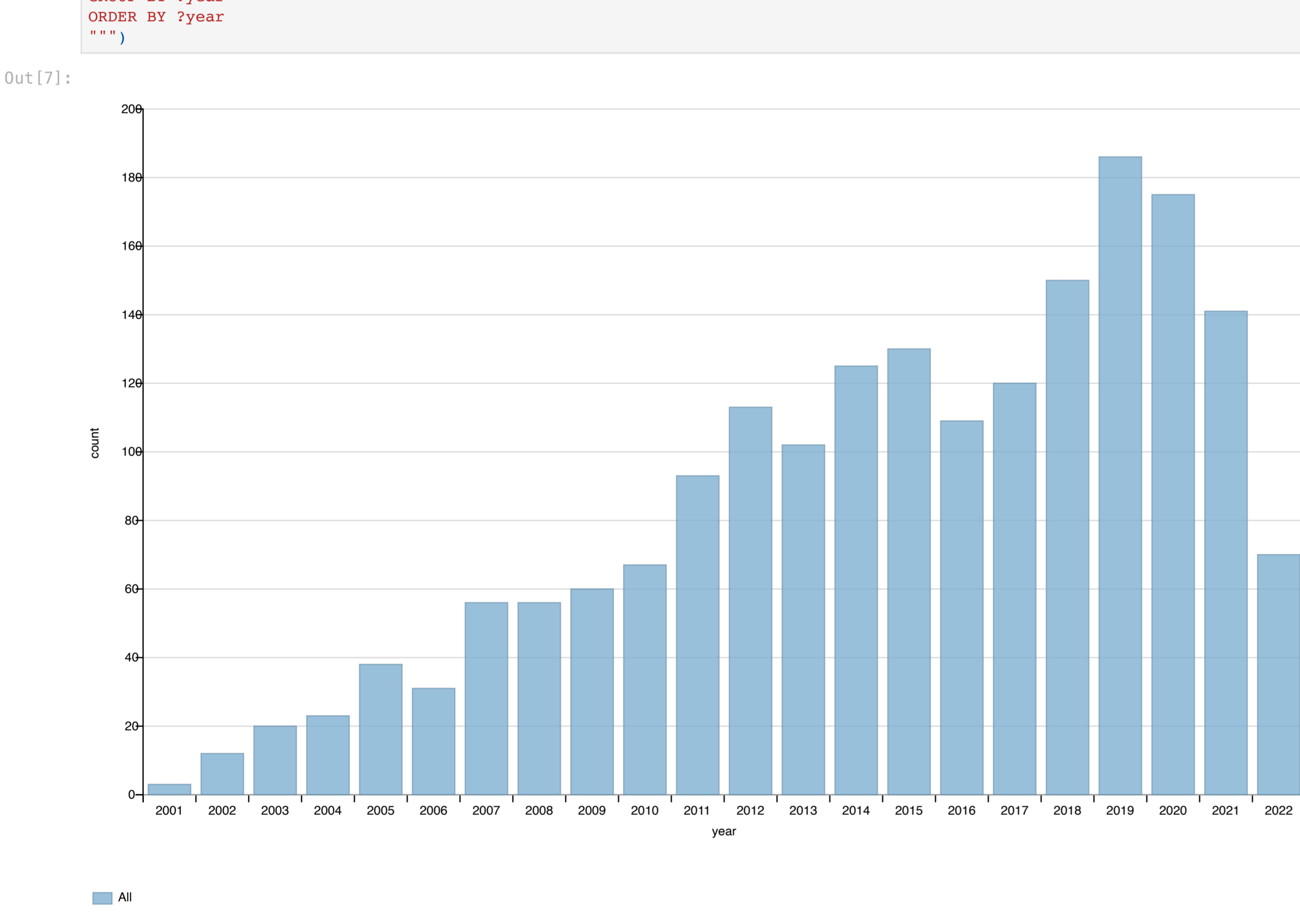
## Most common journals that have articles about ISS experiment results

```
In [15]: wdq("""
# Histogram of most common journals that have articles about ISS experiment results?
#defaultView:BarChart
SELECT ?q ?qLabel (COUNT(?q) as ?count) WHERE {
  ?item wdt:P31 wd:Q13442814 .
  ?item wdt:P4510 ?thing .
  ?thing wdt:P31 wd:Q108572660 .
  ?q wdt:P140 ?item .
  SERVICE wikibase:label { bd:serviceParam wikibase:language "AUTO_LANGUAGE,en". }
}
GROUP BY ?q ?qLabel
ORDER BY DESC (?count)
LIMIT 30
""")
```



## Publications about ISS experiments by year

```
In [17]: wdq(width=1000,height=800,query=""
# Histogram of yearly publication output resulting from ISS experiments
#defaultView:BarChart
SELECT ?year (COUNT(?year) AS ?count)
WHERE {
  ?item wdt:P31 wd:Q13442814 .
  ?item wdt:P4510 ?thing .
  ?thing wdt:P31 wd:Q108572660 .
  ?item wdt:P577 ?date .
  BIND(STR(?date)) AS ?year .
  SERVICE wikibase:label { bd:serviceParam wikibase:language "AUTO_LANGUAGE,en". }
}
GROUP BY ?year
ORDER BY ?year
""")
```



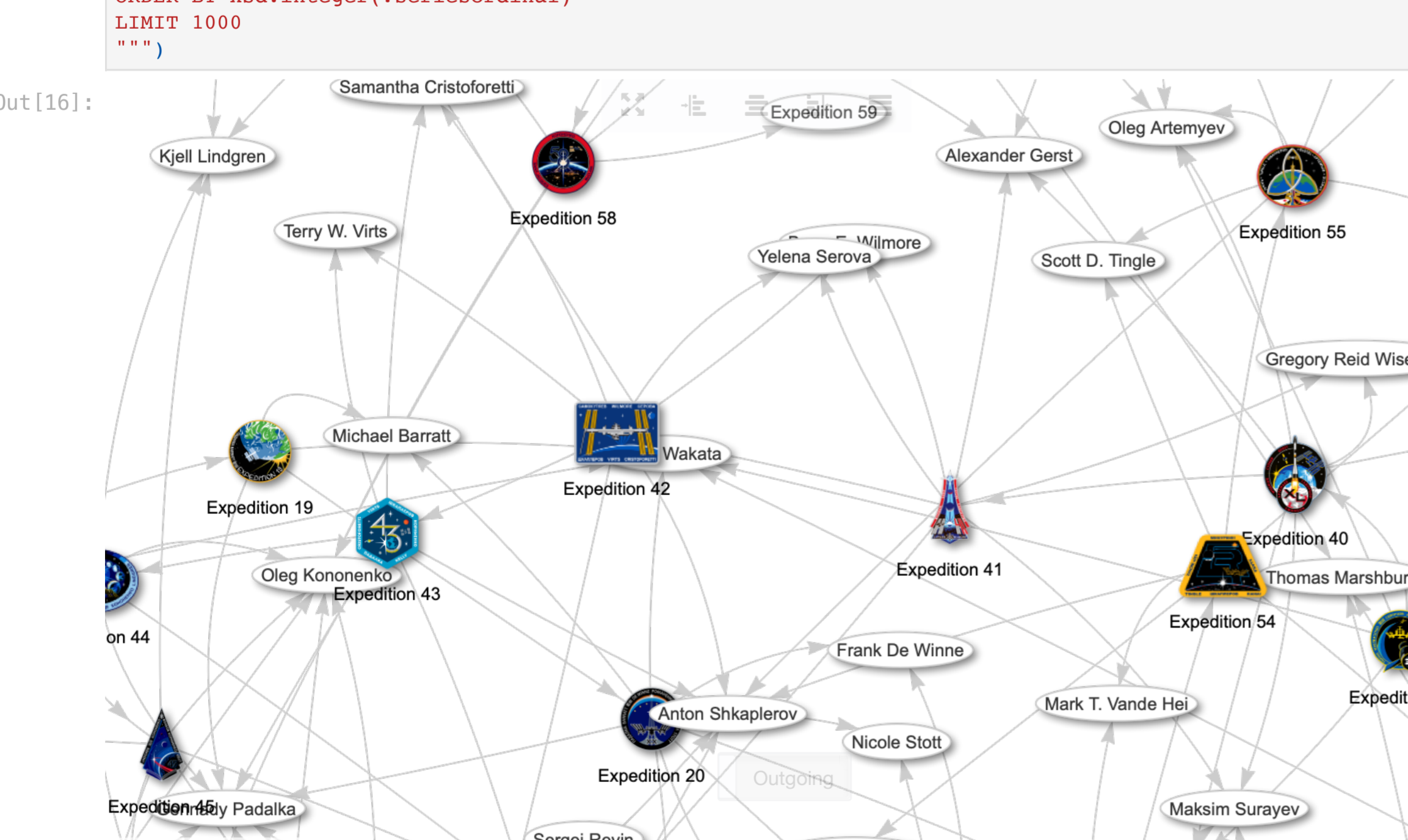
## Gender of ISS astronauts

```
In [13]: wdq(width=1000,height=200,query=""
SELECT ?genderLabel (COUNT(?gender) AS ?count) # (?count / "333") AS ?ratio
WHERE {
  BIND ("315"^^xsd:integer AS ?dem)
  ?item1 p:P31 [ ps:P31 wd:Q18201623;
    pg:P1545 ?seriesordinal ] .
  ?item1 wdt:P1029 ?item2 .
  ?item2 wdt:P21 ?gender .
  SERVICE wikibase:label { bd:serviceParam wikibase:language "AUTO_LANGUAGE,en". }
}
GROUP BY ?gender ?genderLabel
""")
```

genderLabel	count
male	277
female	38

## Graph of expeditions and astronauts

```
In [16]: wdq("""
# Graph of ISS expeditions and crew members
#defaultView:Graph
SELECT ?item1 ?item1Label ?item2 ?item2Label ?image2 WHERE {
  ?item1 p:P31 [ ps:P31 wd:Q18201623;
    pg:P1545 ?seriesordinal ] .
  ?item1 wdt:P156 ?item2 .
  OPTIONAL { ?item1 wdt:P154 ?image1. }
}
UNION
{
  ?item1 p:P31 [ ps:P31 wd:Q18201623;
    pg:P1545 ?seriesordinal ] .
  ?item1 wdt:P1029 ?item2 .
  OPTIONAL { ?item1 wdt:P154 ?image1. }
  # OPTIONAL { ?item2 wdt:P18 ?image2. }
}
SERVICE wikibase:label { bd:serviceParam wikibase:language "AUTO_LANGUAGE,en". } # Helps get the label in your language, if not, then on language
}
ORDER BY wsd:integer(?seriesordinal)
LIMIT 1000
""")
```



## Diagram of ISS modules

```
In [17]: wdq("""
# ISS parts and connections
#defaultView:Graph
SELECT ?item1 ?image1 ?item2 ?image2 ?item2Label WHERE {
  VALUES ?maintaining { wd:Q25271 }
  { # Get "connects to" modules
    ?maintaining wdt:P527 ?item1 .
    ?item1 wdt:P2789 ?item2 .
    OPTIONAL { ?item1 wdt:P18 ?image1. }
    OPTIONAL { ?item2 wdt:P18 ?image2. }
  }
  UNION
  { # Get "connects to" modules the other way
    ?maintaining wdt:P527 ?item1 .
    ?item2 wdt:P2789 ?item1 .
    OPTIONAL { ?item1 wdt:P18 ?image1. }
    OPTIONAL { ?item2 wdt:P18 ?image2. }
  }
  UNION
  { # Process EXPRESS Logistics Carriers
    wd:Q1866213 wdt:P527 ?item1 .
    ?item1 wdt:P2789 ?item2 .
    OPTIONAL { ?item2 wdt:P18 ?image2. }
    OPTIONAL { ?item1 wdt:P18 ?image1. }
  }
  SERVICE wikibase:label { bd:serviceParam wikibase:language "AUTO_LANGUAGE,en". }
}
""")
```

