

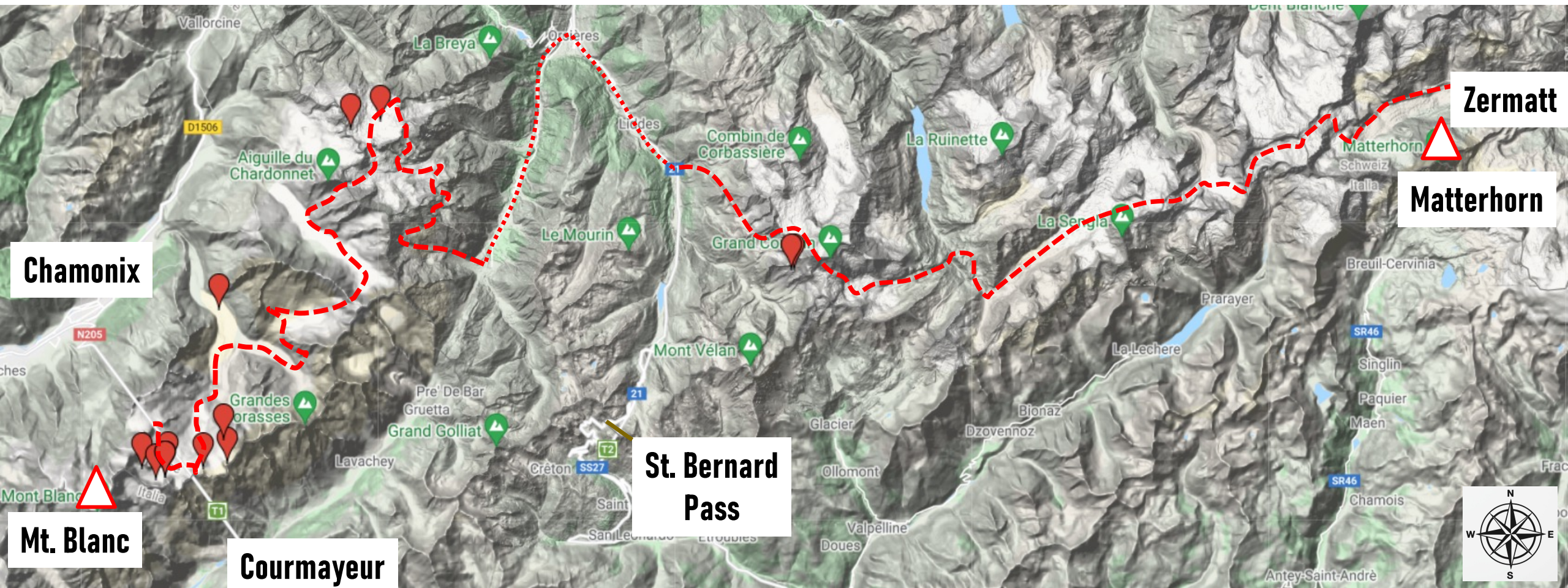
Nanoplastics and Organic Aerosols in Alpine Glacier Samples – a citizen scientist approach

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Robin Milner, and Rupert Holzinger**

The High Level Route

- Citizen scientist sampling effort
- Summer 2021
- Nanoplastics and organic aerosols in high alpine environment
- Low trafficked area
- Atmospheric transport





Chamonix

Mt. Blanc

Courmayeur

**St. Bernard
Pass**

Zermatt

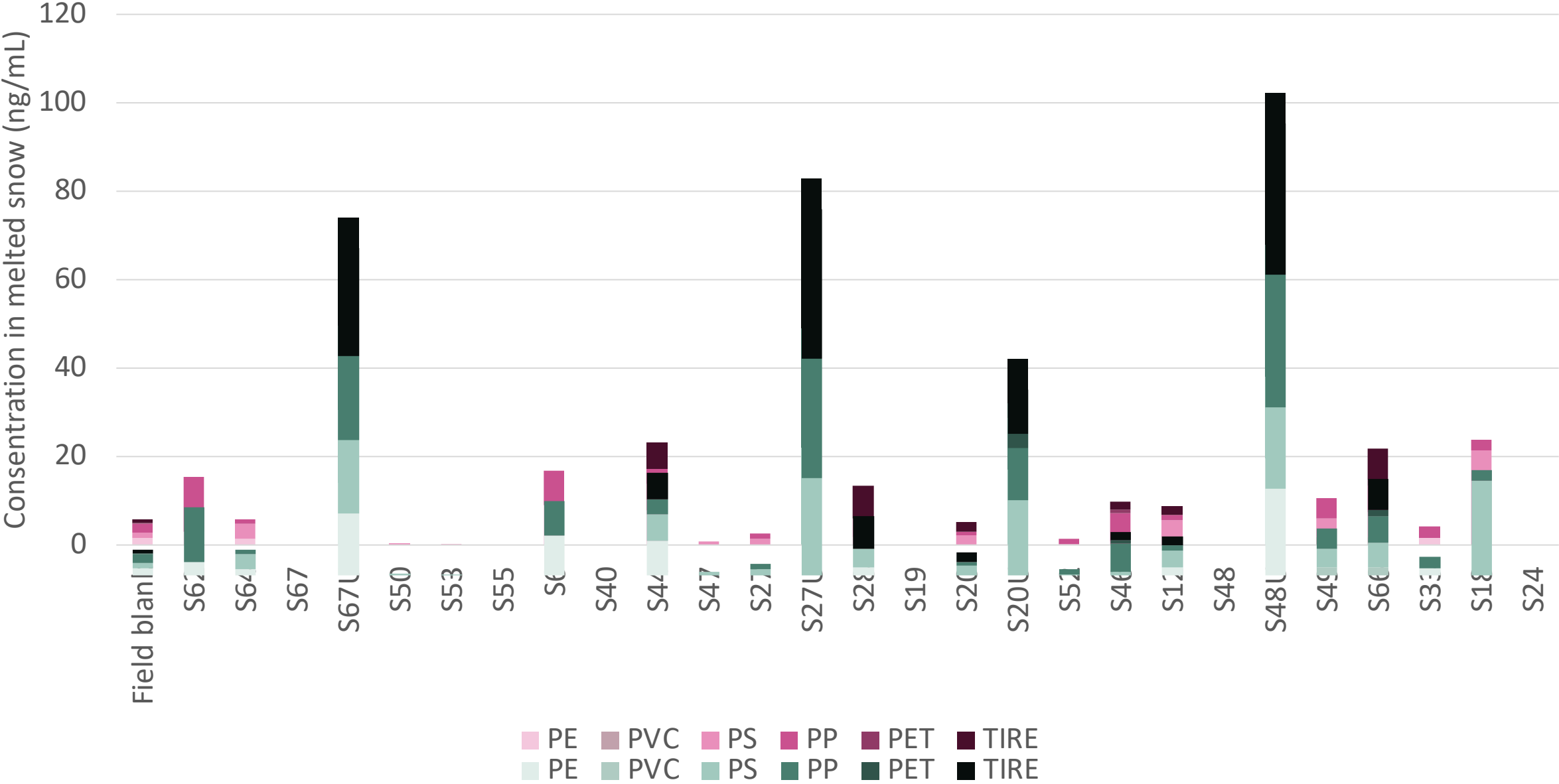
Matterhorn

Method

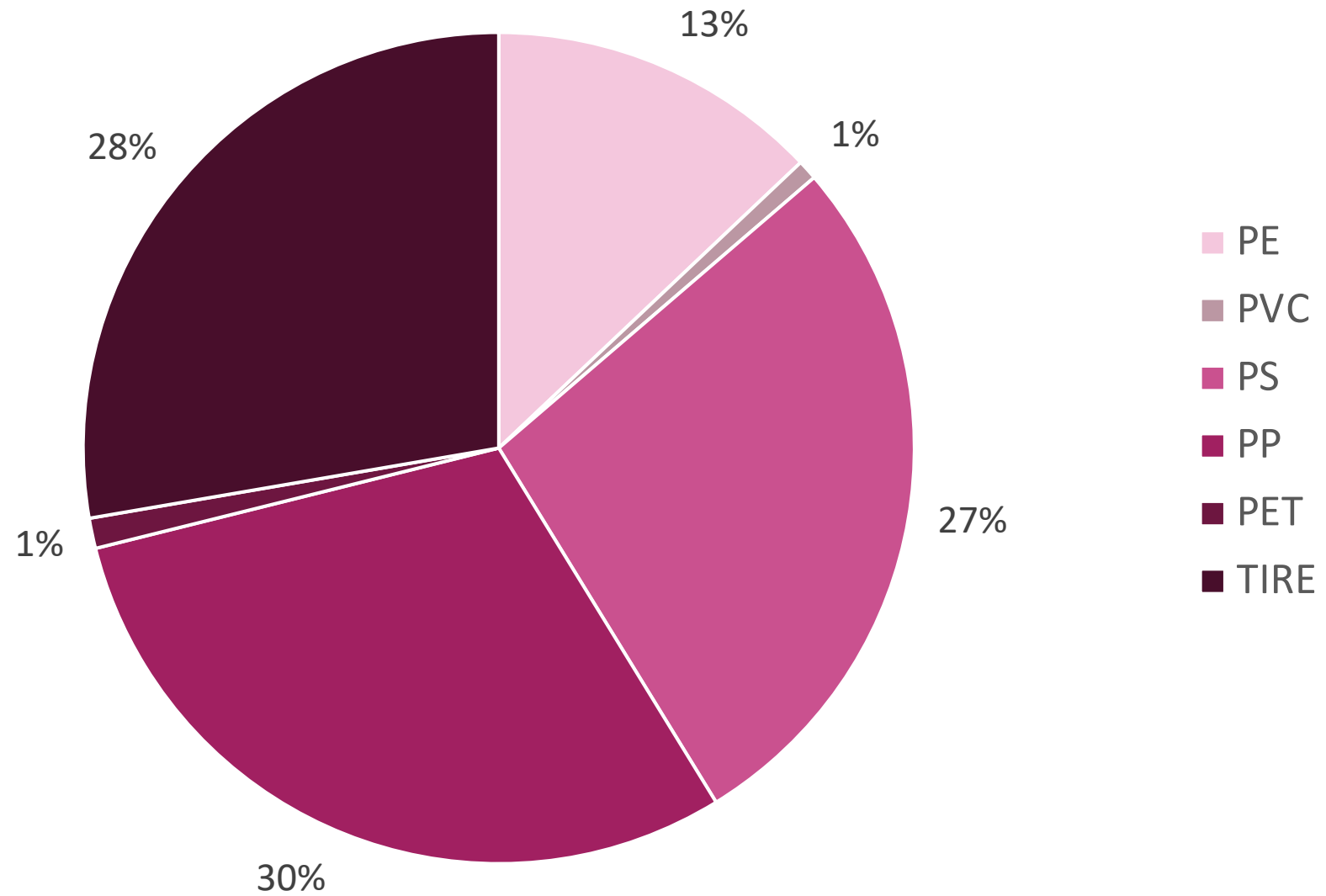
- Mountaineering enthusiasts
- Given instructions and equipment
- 2 weeks hiking across glaciers collecting samples
- Analyzed in Utrecht University PTR-MS lab



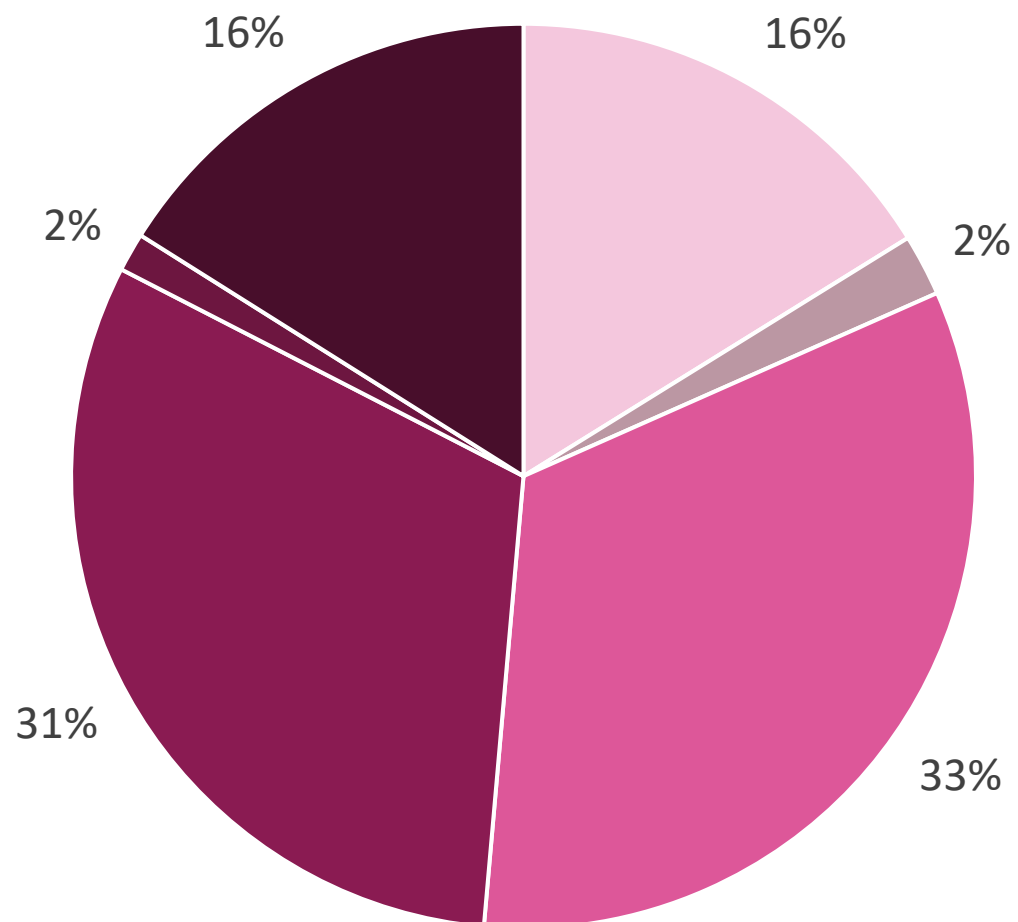
Contribution of different plastics



Plastic distribution

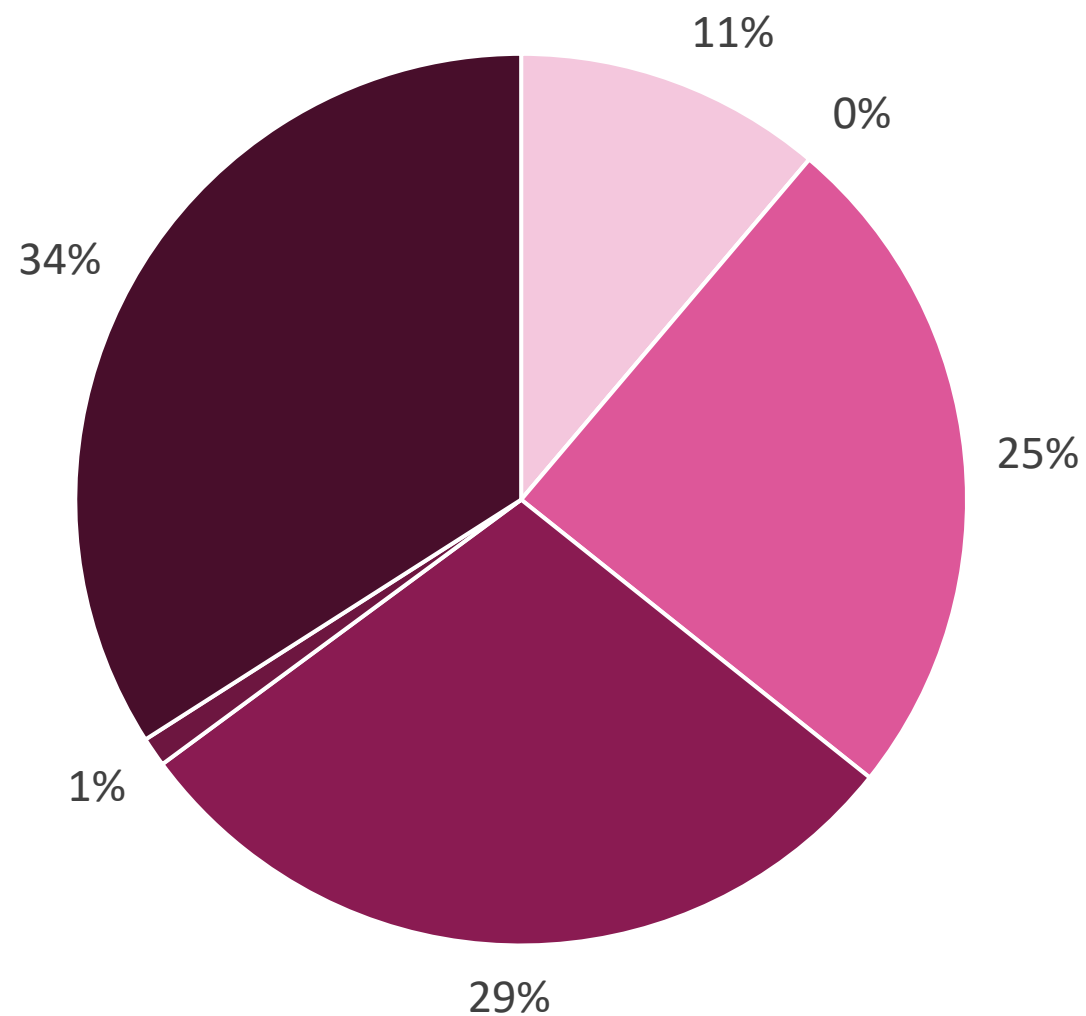


Filtered samples



PE PVC PS PP PET TIRE

Unfiltered samples



PE PVC PS PP PET TIRE

Outlook

- Nanoplastics found on Alpine glaciers
- Main contribution from microplastics
- Next field trip: June
- Atmospheric transport modelling: source attribution



A big thank you to Al Gill, Robin Milner, Matteo Sotti, Giacomo Sotti and Giulio Sotti

