

## Overview Products and Services from IBTP Koschuch

### General

IBTP Koschuch is a Consulting Company in Technical Physics, therefore IBTP Koschuch is working in any part of technology development since 2010, where measurements of any physical quantities are from interest. Out of the past projects with our customers we developed our own products and bring them from a prototype stage to a marketable product. Our main products are the following:

### Products and field of interests:

#### *Radar Technology*

##### *.) Pulse Compression Doppler Radar*

Developed especially as an alarming system for the measurements of fast natural hazards like avalanches, debris flow, rockfall etc.. As we developed also the Radar-electronic we can develop any Radar for any range and any usage.

Homepage: <http://www.avalancheradar.com/en/avalanche-radar/overview>

Folder: [http://www.avalancheradar.com/downloads/print/lawinenradar5\\_eng\\_print\\_ibtp%20v2b%20dark%20print.pdf](http://www.avalancheradar.com/downloads/print/lawinenradar5_eng_print_ibtp%20v2b%20dark%20print.pdf)

Principle: [http://www.avalancheradar.com/downloads/AVALANCHE\\_RADAR.pdf](http://www.avalancheradar.com/downloads/AVALANCHE_RADAR.pdf)

Table 1: Specification for the Natural Hazard Radar

Parameter	Quantity	Tolerance	Unit
Mode	Pulse/PCM		

Frequency	10.0-10.5		GHz
Power Peak	5		mW
Power C. overall	40	<	W
Range	30-5000		m
Targetsize	1	min > at 2km	m <sup>2</sup>
	0.25	min > at 1km	m <sup>2</sup>
Velocity	0.2-100	min/max	m/s
RG	128	max	
RG-length	15-250	min/max	m

### ***Possible Field of Use:***

- .) Road and rail safety device for the authorities
- .) Natural Hazard Science Groups in the field of Avalanches, Debris Flow, Rockfall, Vulcan Science etc.
- .) Man and Drone detection
- .) Border Control
- .) Area Control
- .) Mining

## ***.) Passive Airport Radar***

Development for a passive airport radar to detect the position of any airplane in 1m resolution near airports.

### ***Possible Field of Use:***

.) airports authorities

## ***Rockfall Shock Sensor***

We developed a Rockfall Shock Sensor (3Axis accelerator sensor) to be mounted on rockfall fences. The read out goes with the LoRa-Protocol and the Data are stored in a Datacloud. The sensor is energy self sufficient with a small PV panel and therefore can be installed without service for years in the field.

Folder:

[http://www.avalancheradar.com/downloads/Rockfall\\_Net\\_Sensor\\_Folder.pdf](http://www.avalancheradar.com/downloads/Rockfall_Net_Sensor_Folder.pdf)

### ***Possible Field of Use:***

- .) Road and rail safety device for the authorities
- .) Natural Hazard Science Groups in the field of Avalanches, Debris Flow, Rockfall, Vulcan Science etc.
- .) Border Control
- .) Mining

## ***.) Vector Network Analyser***

3 Types: 1Hz-1.4 GHz

1Hz-3.8 GHz

1Hz-6.4 GHz



All VNA are multifunctional and all VNA are very small compared with the old ones:

Functions within: VNA, Oscilloscope, Signal Generator, Signal Analyser, Bode function, Voltmeter...

[http://www.avalancheradar.com/downloads/Network\\_Analyzer\\_A\\_1GHz.pdf](http://www.avalancheradar.com/downloads/Network_Analyzer_A_1GHz.pdf)

[http://www.avalancheradar.com/downloads/Network\\_Analyzer\\_B\\_3GHz.pdf](http://www.avalancheradar.com/downloads/Network_Analyzer_B_3GHz.pdf)

[http://www.avalancheradar.com/downloads/Network\\_Analyzer\\_C\\_6GHz.pdf](http://www.avalancheradar.com/downloads/Network_Analyzer_C_6GHz.pdf)

### ***Possible Field of Use:***

- .) any Lab for electronic engineers
- .) teaching for any electronic engineers in University/HighSchools
- .) EMV measurements
- .) etc.

### ***.) X-Ray Systems***

IBTP Koschuch is an expert in SAXS. We can develop and repair SAXS-Systems

Especially we have all SAXS Components of the former Supplier Hecus X-Ray Systems in stock.

<http://ibtp-koschuch.com/xray.html>

### ***Possible Field of Use:***

- .) Biophysic Lab
- .) Pharma Lab
- .) etc.