

## IARU REGION 1 ARDF WORKING GROUP GUIDELINES

### ARDF SPRINT ORGANIZER'S HANDBOOK

(OK2BWN 2011-2017)

#### 1. INTRODUCTION

ARDF Sprint event is still quite a new ARDF format and many organizers have not enough experience with such competitions. In this short handbook I would like to help them showing main principles and possible problems.

#### 2. DESCRIPTION

The ARDF Sprint event Rules are already defined and generally understood. There are some differences between classic ARDF and Sprint which deserve closer description:

COMPARING OF ARDF FORMATS		
	CLASSIC	SPRINT
Controls	technically demanding	technically simple
Terrain	Physically tough terrain allowing good route choice possibilities.	flat, free runnable forest or park, city streets
Map	1:10000 or 1:15000	1:4000 or 1:5000
Competition area	6 ... 10 sq.km	1 sq.km
Start interval	5 minutes	2 minutes
Time schedule	60/240	12/48
Transmitter distance	1...3 km	200...400 m
Winning time	approx. 60 minutes	approx. 15 minutes
Running	Physically demanding, requiring endurance	very high speed
Demands on competitors	precise taking bearings, map and terrain evaluation, endurance	high concentration, quick receiver operation, quick decisions, fast running
Competitor's decisions, route planning	Significant route choice including some large-scale route choices.	quick, direct solutions, simple, easy routes
Drawing bearings in the map	precise, often used	unnecessary
Summary	tests technical and orientation skills as well as speed and physical endurance, hidden outside populated areas	fast, attractive and easily understandable for spectators, allowing organizing in highly populated areas

#### 3. ORGANIZER'S POINT OF VIEW

##### Personnel list

- start supervisor (referee at the start) + 2-3 assistants at the start
- finish supervisor (referee at the finish) + 2-3 assistants at the finish
- siting referee
- 12 transmitter operators
- monitoring center operator

##### Starting list preparation

As the sprint is very fast, there is generally no time for cheating and following for those who want to win. As the starting interval is normally 2 min you can send 4-5 competitors in odd minutes and another 4-5 in even minutes, which makes a starting field of less than 2 hours. Of course, within one category only one competitor shall start at a time (no parallel starts are allowed).

#### 4. SITING REFEREE'S POINT OF VIEW

**Map, competition area:** we need about 1 sq.km of flat terrain with good runnability but not good visibility for long distance (city park, easily runnable forest) with place for separated start and the finish/spectators control area with place for auditorium. The map should have a scale of 1:4000 or 1:5000. Keep in mind that ARDF Sprint is not only short in length but shall be also run in a high speed which calls for fast runnable terrain without big height differences. Finding transmitters should not be the challenge; rather the ability to choose the best route. The competitors' full concentration should be required throughout the race.

Courses must be planned to avoid tempting competitors to take shortcuts through private property and other out-of-bound areas.

**Transmitters:** The sprint winning time shall be about 15 minutes, it means some 3 km in total for M21 and 1,5 km for D50. It means that average distance between transmitters is some 250m. Because of fast character of the competition the transmitters position shall allow fast run-in and run-out with no problems with final approach (transmitters have no flag, only red/white stripped registering device stand) and simultaneously the registering competitor should not be visible from big distance. This calls for careful placing of the transmitters.

**General arrangement:** the starting area should be well separated from the finish. It can be placed close to the finish or (better) at some distance. The "slow loop" (transmitters 1...5) and "fast loop" (transmitters 1F ... 5F) shall be also separated so that competitors do not find fast transmitters accidentally. The finish area shall be arranged so that spectators can see the finishing competitors and also competitors running through the spectators control. The beacon, finishing corridor and also run-in and run-out around the spectators control should be clearly marked so that competitors do not get confused.

There are some samples of successful sprint competitions below and also maps of three IARU sprint Championships, problems are pointed out.

#### 5. TECHNICAL DIRECTOR'S POINT OF VIEW

##### Example of the equipment list

- ARDF transmitter CONTEST2007/2012/TRAINER15 + HF antenna 12 pcs
- registering device (SportIdent + stand + backup device) 12 + erase + check + finish + download
- monitoring receiver
- electronic starter device
- communication equipment for all organizers (14+)
- computer + printer for SI cards download at the finish
- START and FINISH banner
- corridor marking stripes
- maps for all competitors with start, finish, spectators control, beacon and the list of transmitters assigned to the particular category already printed on the map
- information board to the starting area

Transmitters setting:

TRANSMITTER SETTING FOR ARDF SPRINT EVENT								
tx	mode	time schedule	time shift	code	speed	frequency HF	frequency VHF	power
1	intervals	12/48	+0 s	MOE	50 PARIS	3,51 MHz		1W
2	intervals	12/48	+12 s	MOI	50 PARIS	3,51 MHz		1W
3	intervals	12/48	+24 s	MOS	50 PARIS	3,51 MHz		1W
4	intervals	12/48	+36 s	MOH	50 PARIS	3,51 MHz		1W
5	intervals	12/48	+48 s	MO5	50 PARIS	3,51 MHz		1W
S	continuous	12/48	+0 s	S	70 PARIS	3,54 MHz		1W
1F	intervals	12/48	+0 s	MOE	70 PARIS	3,57 MHz		1W
2F	intervals	12/48	+12 s	MOI	70 PARIS	3,57 MHz		1W
3F	intervals	12/48	+24 s	MOS	70 PARIS	3,57 MHz		1W
4F	intervals	12/48	+36 s	MOH	70 PARIS	3,57 MHz		1W
5F	intervals	12/48	+48 s	MO5	70 PARIS	3,57 MHz		1W
B	continuous	12/48	+0 s	MO	50 PARIS	3,60 MHz		1W

Note: time schedule 12/48 means 12 s transmitting and 48 s space, time shift is set automatically

Antennas with symmetrical grounding system are mandatory. All installations of transmitters and antennas shall be made very carefully so that they are not damaged by fast running competitors and also do not hinder them. Transmitter operators shall be well hidden but ready to intervene in the event of any problem.

## 6. SPECIAL HINTS

It is very important to keep all participants under control, separate competitors waiting for the start from spectators and those already finished.

Install the transmitter antennas carefully and let the transmitter operators take care of them in order to prevent them from catching by run-by competitors. Note that everybody is running very fast!

In urban areas we have to face lots of metal fences, overhead and buried electrical lines and other objects distorting the bearings. Make sure that at least transmitters and the end of the starting corridor are in sufficient distance from these.

Keep in mind that one of important aims of the sprint competition is to bring ARDF close to spectators, public and media. This goal should be taken into account from the initial considerations about the competition area selection.

The area for spectators with good view at the spectator's control, the beacon and the finish corridor should be established (of course, unless it jeopardise the competition fairness).

## 7. PROCEDURE FOLLOWED AT NON-STANDARD CASES OF REGISTERING CONTROLS

Normally, most competitors have no problems with registering controls in correct order. However, especially in the event of overlapping loops, somebody may accidentally register a wrong control. If he/she realizes that, no harm occurs. If not, the problem may arise.

You can imagine that the sprint consists of four separate pieces (between start and finish):

- (a) a loop with slow transmitters (1, 2, 3, 4, 5), searched in any order,
- (b) a spectator control (S),
- (c) a loop with fast transmitters (1F, 2F, 3F, 4F, 5F), searched in any order,
- (d) a beacon (B).

Any of them could be skipped (with different consequences for the results), however, they **must be found in the proper order (i.e., a→d)**. A wrong transmitter in any loop is just ignored. Finally, the best possible selection of transmitters for the competitor is taken into account.

### Examples of punching and results (this category omits 5 and 5F):

- |                                                                        |                                   |
|------------------------------------------------------------------------|-----------------------------------|
| • start, <b>1, 2, 3, 4, S, 1F, 2F, 3F, 4F, B</b> , finish              | → correct, 10 Tx,                 |
| • start, <b>1, 2, S, 2F, 3, 4, S, 1F, 2F, 3, S, 3F, 4F, B</b> , finish | → mistake corrected, 10 Tx,       |
| • start, <b>1, 2, S, 2F, 3, 4, 1F, 2F, 3, S, 3F, 4F, B</b> , finish or |                                   |
| • start, <b>1, 2, S, 2F, 3, 4, 1F, 2F, 3, S, 3F, 4F, B</b> , finish    | → both best selections give 8 Tx, |
| • start, <b>1, 2, 3, 4, 1F, 2F, 3F, 4F</b> , finish                    | → 8 Tx,                           |
| • start, S, B, finish                                                  | → not classified                  |
| • start, <b>1F, S, 3, B</b> , finish                                   |                                   |
| • start, <b>1F, S, 3, B</b> , finish                                   | → both best selections give 2 Tx. |

## 8. SAMPLES OF ARDF SPRINT COMPETITIONS

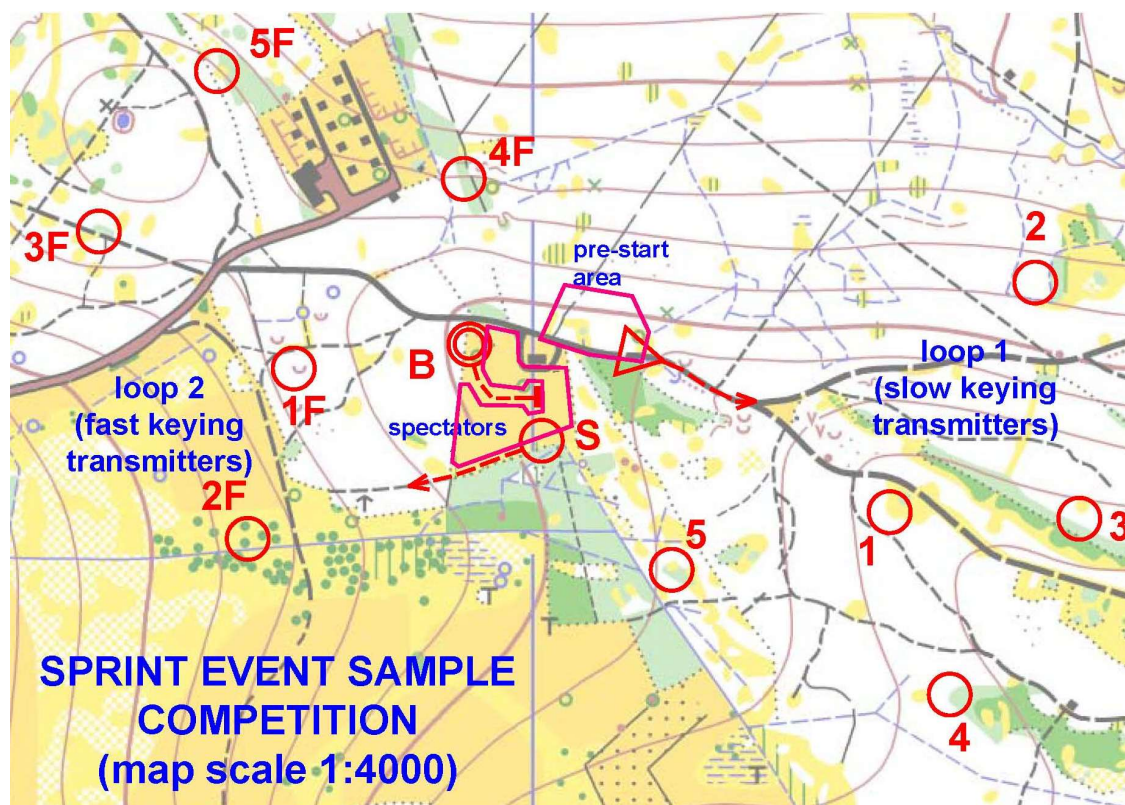


Fig.1: sample ARDF sprint competition. "Slow" and "fast" loops well separated, the border between start and finish area should be guarded. Clear arrangement of the finish area.

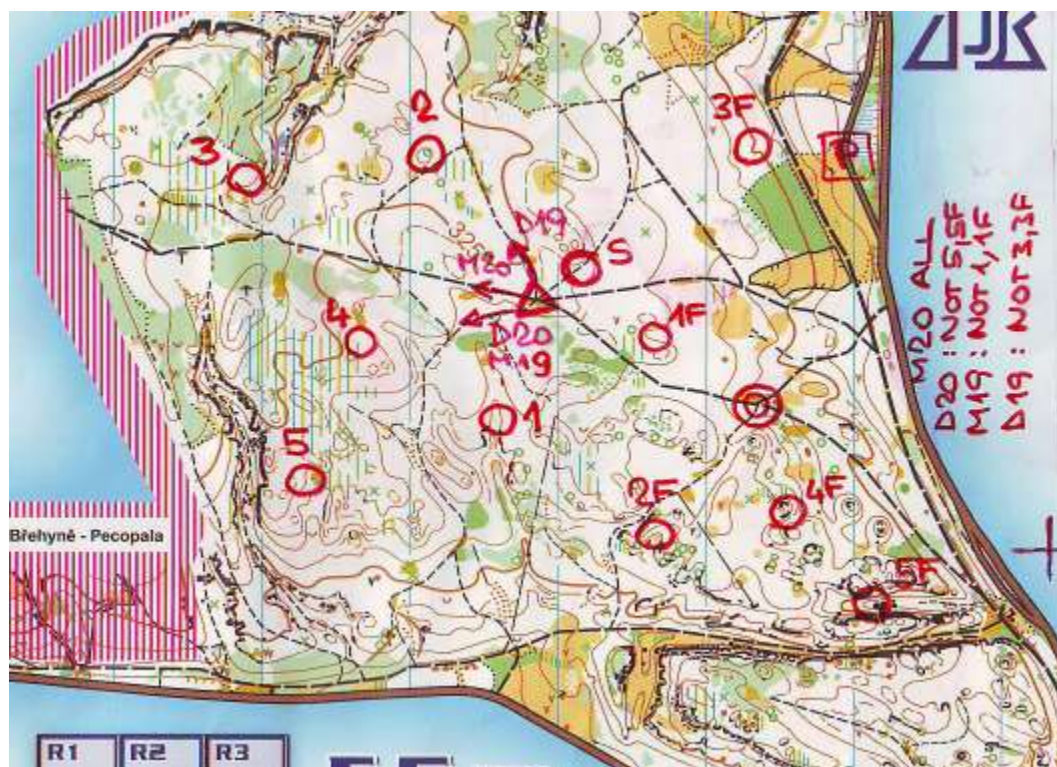


Fig.2: training sprint competition, not suitable for larger number of competitors. Starting corridors shown.



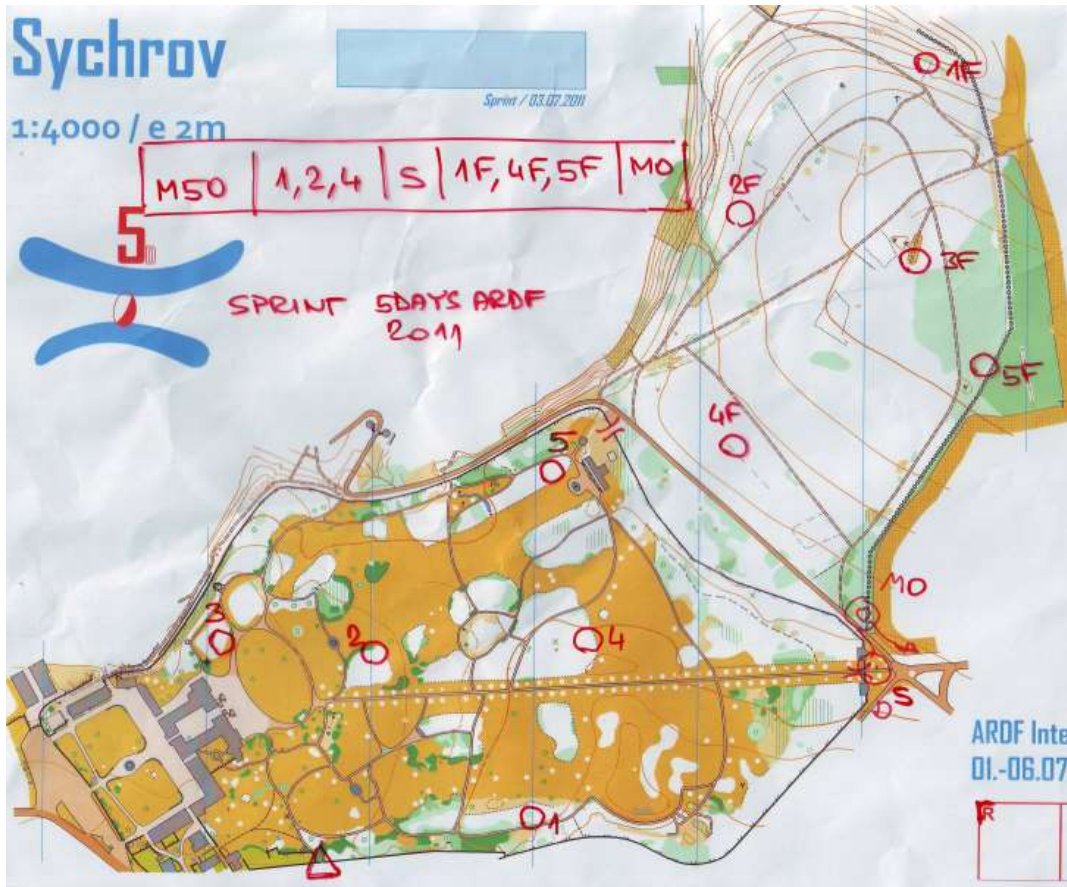


Fig.3: sprint held in chateau park, "slow" and "fast" loops well separated, also start and finish well separated. Flat, easily runnable terrain, no crowding at the transmitters.

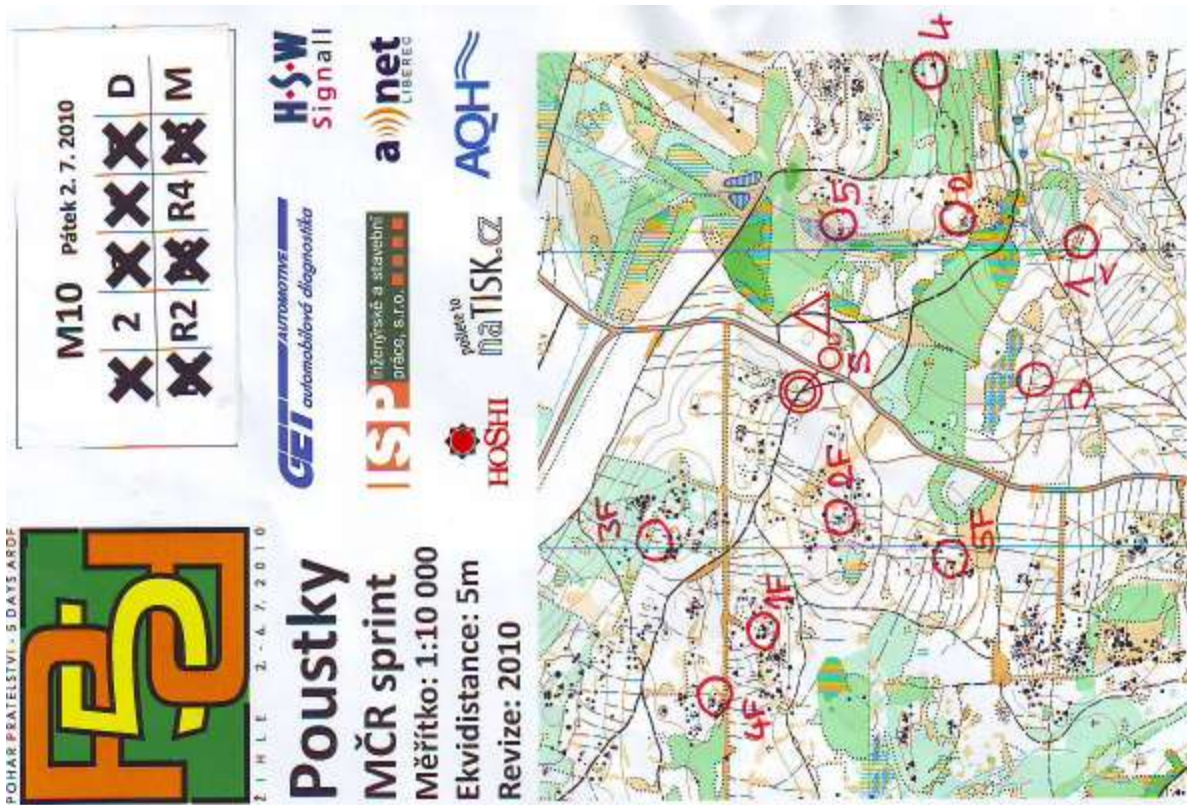


Fig.4: sprint held in forest, a bit difficult terrain, especially at the "slow" loop. Loops well separated by the road, start has to be managed carefully because of finish area nearby. A sticker with transmitters assigned to the category is shown (best way). D (divácká kontrola) is used in CZE instead of english S (spectators control), also M (maják) instead of english B (beacon).



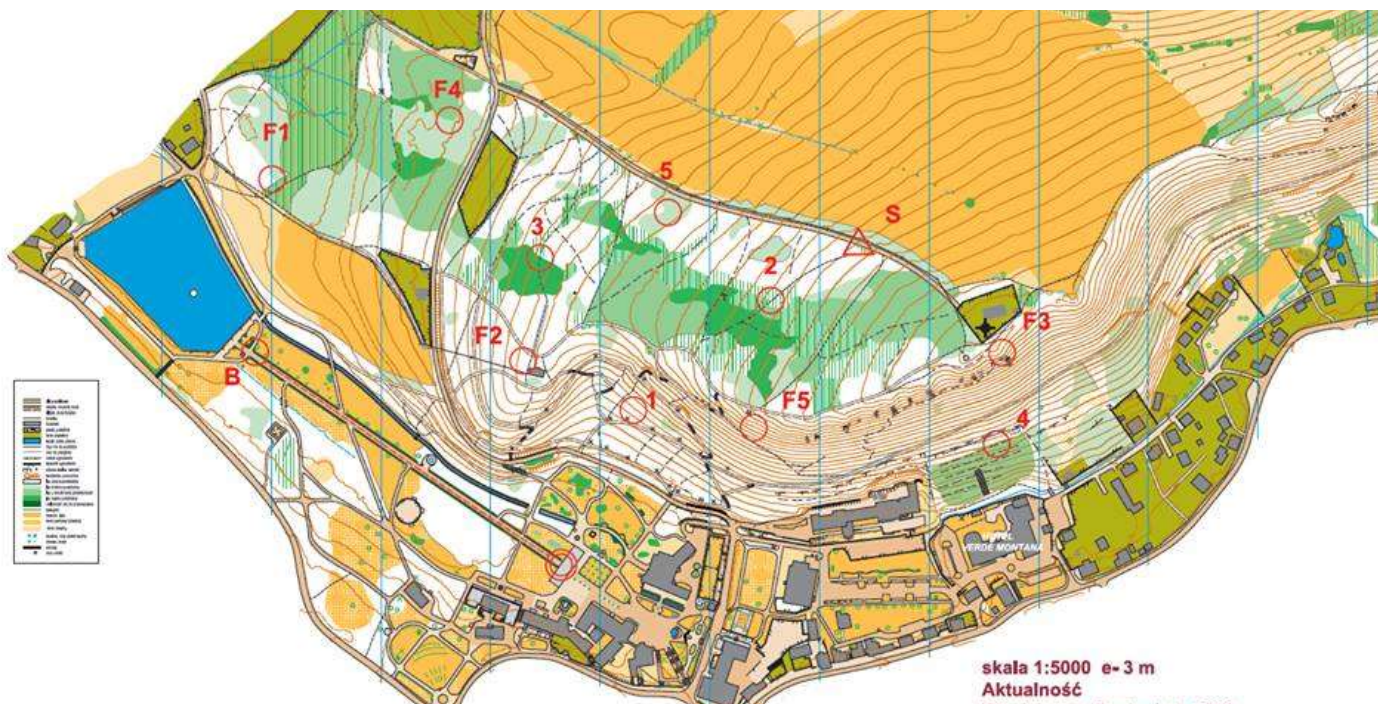


Fig. 5: Sprint at the IARU R1 ARDF Championship 2013. Main mistakes: big height differences plus very steep slope together with very dense undergrowth in the center of competition area made fast running impossible. Slow and fast loops overlapped significantly and many competitors found F3 and F5 transmitters by chance. Long finish corridor is good for spectators but this one was way too long. In addition, there was lots of electrical lines over the start, starting corridor and especially around the end of starting corridor (bottom of the hill south of F5) which made very difficult the initial taking bearings after the start. These are very important especially for sprint and especially in this case, where the optimum beginning was to turn around and begin at TX4.

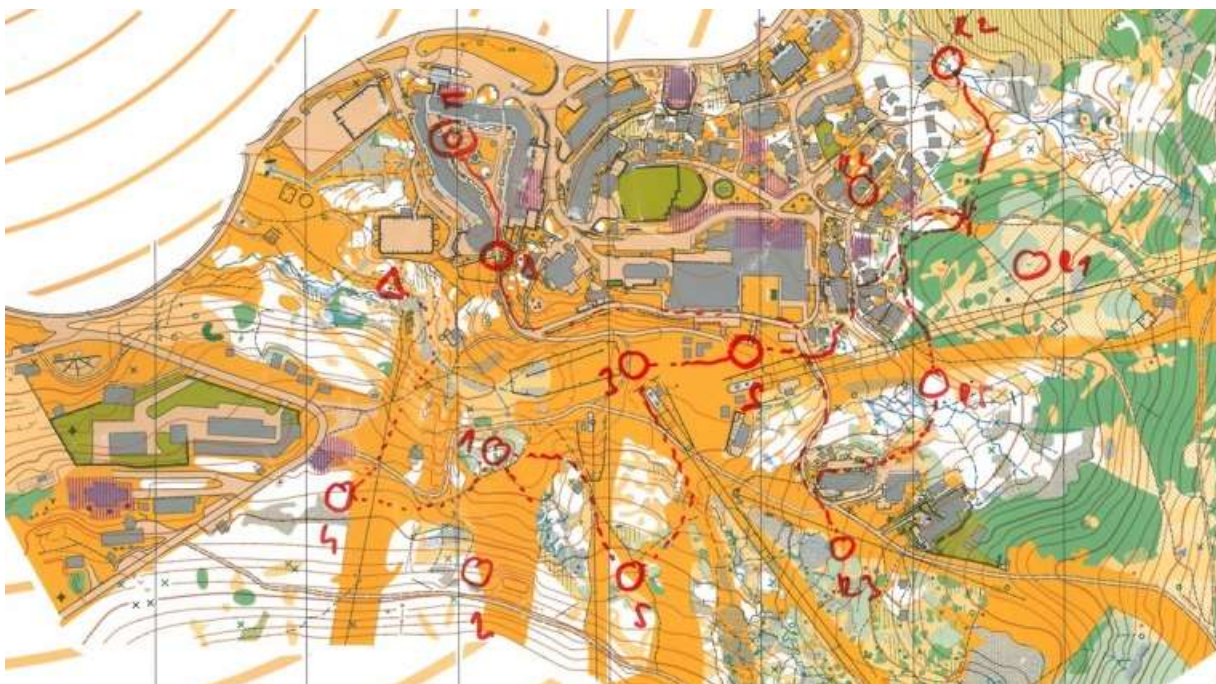


Fig. 6: Sprint at the World Championship 2012: quite interesting course. Lots of electric wires and cableways made taking bearings difficult in great part of the area. Parallel starts (now restricted) resulted in frequent following. Final way (stairs down to the beacon) was a bit dangerous. At this course the red/white stands were not used yet which caused problems to find registering devices.



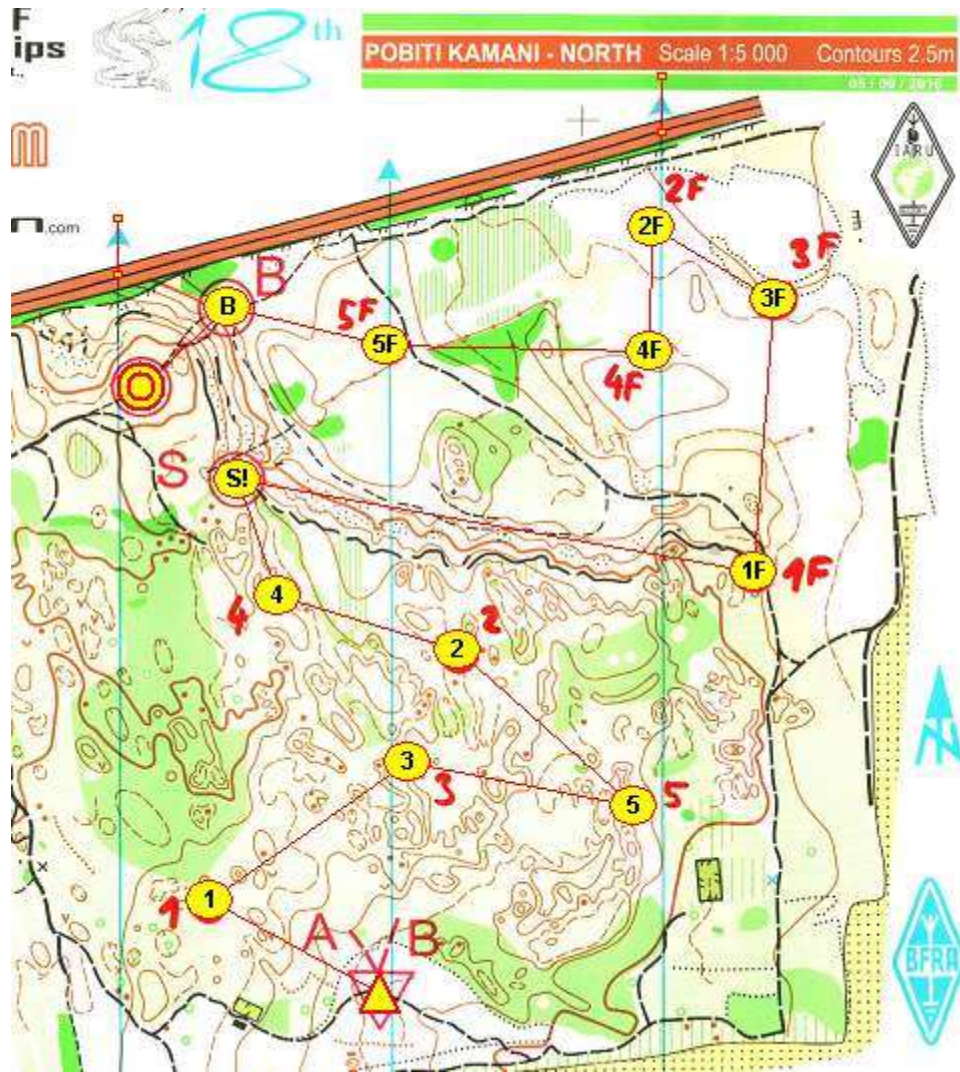


Fig.7: Sprint at the World Championship 2016. Very well planned course, "Slow" and "fast" loops well separated. Naturally elevated platform around the finish gives a great view to the spectators' control, the beacon and finish corridor and also to the great part of the "fast" loop.