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**Response to the Reviewer**

We thank the Reviewer for the careful review of our manuscript and for recommending it for publication in Photonics Letters of Poland after the corrections are done.

We have been asked to correct the following typing errors:

1. 1st page, 1nd column, paragraph 2, line 9: ‘of’ in the 3rd sentence has been removed.
2. 1st page, 2nd column, paragraph 1, line 2: ’stain’ has been replaced by ‘strain’.

We have been asked to address the following deficiencies:

1. 1st page, 2nd column, paragraph 2:

 A short explanation concerning the distance between the cooling area and laser diode arrays as well as the minimization of cooler thickness is added:

 The sentence: ‘The minimization of the cooler thickness was possible due to insertion of micro-pipes that transport cooling liquid in the vicinity of diode laser array’ has been replaced by:

 ‘In comparison to conventional micro-channel coolers, the novel cooler is composed from fever material layers, due to the modified water circulation path through the inserted micro-pipes, which makes a minimization of the cooler thickness possible. The distance between the cooling area and the laser diode array is here restricted only by the thickness of the submount placed directly above the water channels‘.

 The comments concerning the corrosion protection of the channels has been added:

 *The ends of channels were closed with electrolytic grade copper using specially elaborated method* ‘and the corrosion resistant layers were deposited.’……. ‘The choice of the corrosion resistant micro-pipe material is beneficial from the point of view of reliability of the coolers.’

1. 2nd page, 1st column, paragraph 1:

 The sentence: ‘The cooling fluids flows in the micro-pipes to the region close the laser diode array’ has been replaced by:

 ‘The cooling fluid flows in the micro-pipes in the region close to the laser diode array’.

1. 3rd page, 1st column, paragraph 1:

 A short explanation concerning the origin of the hot spot in the left part of the array is added:

 ‘An inspection of the laser front facet under the optical microscope revealed a spot at the position corresponding to the observed temperature peak. Most probably, a contaminant absorbing the optical radiation acted as a starting point for extended defect area, leading to the degradation of the emitter.’

1. In Summary we have been asked to give here some numbers, e.g. x mm compering to y mm which is the typical thickness of conventional devices. The paragraph has been modified:

*‘*Small dimension of the cooler in the direction perpendicular to junction allows forming an array stack with the array-to array distance (pitch) of 1 mm. This is advantageous for optical pumping applications and brings a benefit in comparison to convectional constructions, where the pitch of the array stack ranges typically from 1.6 mm to 1.9 mm [12-14].’

 The references [12-14] have been added.

 The last sentence in the Summary has been strengthen by adding:

 *The presented experimental results indicate that the cooling system is an interesting solution for high-power diode laser arrays ‘*due to miniaturized construction and lower induced strain in comparison to conventional copper coolers.’

Again, I would like to thank the Reviewer for reading our manuscript and suggesting the corrections.

Sincerely yours,

Anna Kozłowska