Corrigendum

Corrigendum to "Soft α-Open Sets and Soft α-Continuous Functions"

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In the paper titled "Soft α-Open Sets and Soft α-Continuous Functions" [1, Example 14], the authors deduced that τ is a soft topology over $X = \{h_1, h_2, h_3, h_4\}$ with respect to $E = \{e_1, e_2, e_3\}$. In fact, their conclusion is not true. For example, the soft sets (F_1, E) and (F_2, E) are in the collection τ but their soft intersection and soft union do not belong to it. It follows that all examples based on Example 14 also are incorrect. The examples of [1] can be replaced by the following accurate examples.

Example 1. Let $X = \{h_1, h_2, h_3\}, E = \{e\}$, and $\tau = \{\widetilde{\emptyset}, \widetilde{X}, (F, E)\}$ is a soft topology over X with respect to E, where (F, E) is a soft set over X defined by $F(e) = \{h_1\}$. Then the soft set (G, E) defined by $G(e) = \{h_1, h_2\}$ is soft α-open set but not soft open set.

Example 2. Let $X = \{h_1, h_2, h_3\}, E = \{e\}$, and $\tau = \{\widetilde{\emptyset}, \widetilde{X}, (F_1, E), (F_2, E), (F_3, E)\}$ is a soft topology over X with respect to E, where $(F_1, E), (F_2, E)$, and (F_3, E) are soft sets over X defined as follows:

$$
\begin{aligned}
F_1(e) &= \{h_1\}, \\
F_2(e) &= \{h_2\}, \\
F_3(e) &= \{h_1, h_2\}.
\end{aligned}
\tag{1}
$$

Then the soft set (G, E) defined by $G(e) = \{h_1, h_3\}$ is soft semiopen set but not soft α-open set.

Example 3. Let $X = \{h_1, h_2, h_3\}, E = \{e_1, e_2\}$, and $\tau = \{\widetilde{\emptyset}, \widetilde{X}, (F_1, E), (F_2, E), (F_3, E)\}$ is a soft topology over X with respect to E, where $(F_1, E), (F_2, E)$, and (F_3, E) are soft sets over X defined as follows:

$$
\begin{aligned}
F_1(e_1) &= \{h_1\}, \\
F_1(e_2) &= \{h_2, h_3\}, \\
F_2(e_1) &= \{h_2\}, \\
F_2(e_2) &= \{h_1\}, \\
F_3(e_1) &= \{h_1, h_2\}, \\
F_3(e_2) &= X.
\end{aligned}
\tag{2}
$$

Then the soft set (G, E) defined by

$$
\begin{aligned}
G(e_1) &= \emptyset, \\
G(e_2) &= \{h_1\}
\end{aligned}
\tag{3}
$$

is soft preopen set but not soft α-open set.

Example 4. (1) Let $f : (X, \tau, E) \rightarrow (Y, \nu, K)$ be an injective soft function from an indiscrete soft topological space (X, τ, E) into discrete soft topological space (Y, ν, K). Then f is soft precontinuous function but not soft α-continuous.

(2) Let $X = \{h_1, h_2, h_3\}$ be the initial universe and $E = \{e\}, K = \{k\}$ are the parameters sets. If $\tau =$

$\{\widetilde{\emptyset}, \widetilde{X}, (F_1, E), (F_2, E), (F_3, E)\}$ is a soft topology on X, where (F_1, E), (F_2, E), and (F_3, E) are soft sets defined as follows,

$$F_1(e) = \{h_1\},$$
$$F_2(e) = \{h_3\}, \tag{4}$$
$$F_3(e) = \{h_1, h_3\},$$

and ν is the discrete soft topology on X with respect to $K = \{k\}$, let $f : (X, \tau, E) \rightarrow (X, \nu, K)$ be a soft function defined by

$$u(h_1) = u(h_2) = \{h_1\},$$
$$u(h_3) = \{h_3\}, \tag{5}$$
$$p(e) = k.$$

Then f is soft semicontinuous but not soft α-continuous function.

(3) Let $X = \{h_1, h_2, h_3\}$, $E = \{e\}$, and $\tau = \{\widetilde{\emptyset}, \widetilde{X}, (F_1, E)\}$ is a soft topology on X with respect to the parameters set $E = \{e\}$, where (F, E) is a soft set on X defined by $F(e) = \{h_1\}$. Then the soft function $f : (X, \tau, E) \rightarrow (X, \tau, E)$ defined by

$$u(h_1) = u(h_2) = \{h_1\},$$
$$u(h_3) = \{h_3\}, \tag{6}$$
$$p(e) = e$$

is soft α-continuous but not soft continuous function.

References

[1] M. Akdag and A. Ozkan, "Soft α-open sets and soft α-continuous functions," *Abstract and Applied Analysis*, vol. 2014, Article ID 891341, 7 pages, 2014.