

The Rain Formation Principles and Practices in Natural Process

Jitendra Sunte^{1*}, Sangamesh Sirsgi²

¹Assistant Professor, ²Associate Professor

¹Department of Mechanical Engineering, Lingaraj Appa Engineering College, Bidar, Karnataka, India

²Department of Mechanical Engineering, Guru Nanak Dev Engg. College, Bidar, Karnataka, India

***Corresponding Author**

E-Mail Id: jitendrasunte@gmail.com

ABSTRACT

The creation of salt and water by the interaction of an acid and a base. Earth and water are attracted to one another at an angle of 180 degrees, making them amicable, whereas air and fire are repulsed by it at a 90-degree angle. The broad problem of defining macro physical systems in the atmosphere is looked at in relation to the pertinent microphysical phenomenon of drop-gas interactions. The ionic micro level mechanism results in the formation of water. The midday cloud is warm or hot. OH and H₂O₂ are heterogeneously scavenged by an aqueous chemical process. H₂O₂ droplets are made by clouds. Usually, the ocean is a source of hydrogen. Water is formed when hydrogen is heated or burned in the presence of oxygen; this process is exothermic. While the process of forming O₂ is endothermic, the process of forming O is exothermic. It is a chemical agent in the process of geology. Rainwater's potential connection to soil water and the exchangeable cat ions that occur during weathering processes. The range of the pH is 3.0-9.8. At 25°C, rainfall has a pH of 5.7 in equilibrium with atmospheric carbon dioxide. H₂ and O₂ are produced when water is electrolyzed. This essay addresses the production of water, preventing acid rain, and moving clouds to new locations. The water composition of the lentic lotus and the limnetic is different.

Keywords: Water formation, acid rain controlling, cloud transferring

INTRODUCTION

Rain Water composition: Na, K, Mg, Ca, chloride, bicarbonate, sulfate, ions are major constituents and ammonia, nitrate, nitrite, nitrogen, are minor constituents are iodine, bromine, boron, iron, alumina and silica

Cation: Ca, Mg, Na, K

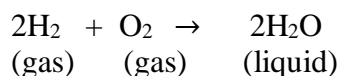
Anion: bicarbonate HCO₃, chloride Cl, sulfate SO₄

Cat ion source is weathering of silicate rock and evaporate rock

Anion source: dissolution of evaporate rock

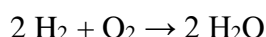
Anion contribution is 45.1 percent.

Cation contribution is 54.9 percent



As a raindrop descends through the atmosphere, it may attract tens to hundreds of tiny aerosol particles to its surface. Coagulation, a natural occurrence that attracts droplets and aerosols, can help rid the air of contaminants like soot, sulfates, and organic particles. These particles were created by atomizing concentrated Al³⁺ and Mn²⁺ salt solutions. The aerosol particles were scavenged in a setting that was naturally occurring. Raindrops that were in contact with the designated aerosol particles in the air were gathered and

studied. A complicated chemical makeup of rainwater varies from location to location, as well as from shower to shower and season to season in the same location. Water is the common name for dihydrogen monoxide or H_2O . The molecule is produced from numerous chemical reactions, including the synthesis reaction from its elements, hydrogen, and oxygen. The balanced chemical equation for the reaction is:[1-10]

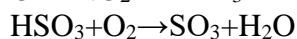
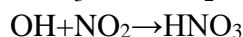
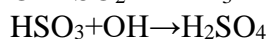
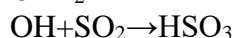
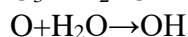
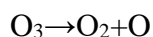


In theory, it's easy to make water from hydrogen gas and oxygen gas. Instant water is produced by combining the two gases, adding a spark or enough heat to start the reaction, and then waiting a little

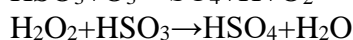
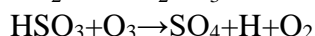
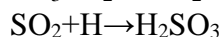
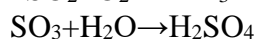
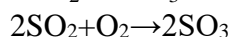
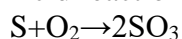
while. However, just mixing the two gases at ambient temperature will have no effect, just as air molecules of oxygen and hydrogen don't spontaneously combine to make water.

To dissociate the covalent bonds holding H_2 and O_2 molecules together, energy must be provided. The difference in their electronegativity allows the hydrogen cations and oxygen anions to freely interact with one another. Additional energy is released as the chemical bonds re-form to create water, causing the reaction to proceed more quickly. The overall reaction is extremely exothermic, or one that involves the release of heat.[11-15]

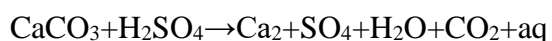
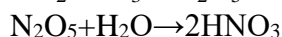
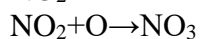
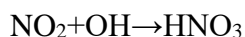
Acid reactions involving O_3



Acid reaction involving Sulphur



Acid reactions involving nitrogen



A statue's face, for example, can easily be destroyed by acid rain because this process takes place at the surface of the monument or building. However, acid rain usually has

no effect on the buildings' structural integrity.[21-27]

CONTROL OF ACID RAIN

This can be achieved by following ways

Limiting

By adding lime, the harm to lakes and other water bodies can be reversed. The

most widely used compounds for boosting the pH of acidified water include caustic soda, sodium carbonate, slacked lime, and limestone.

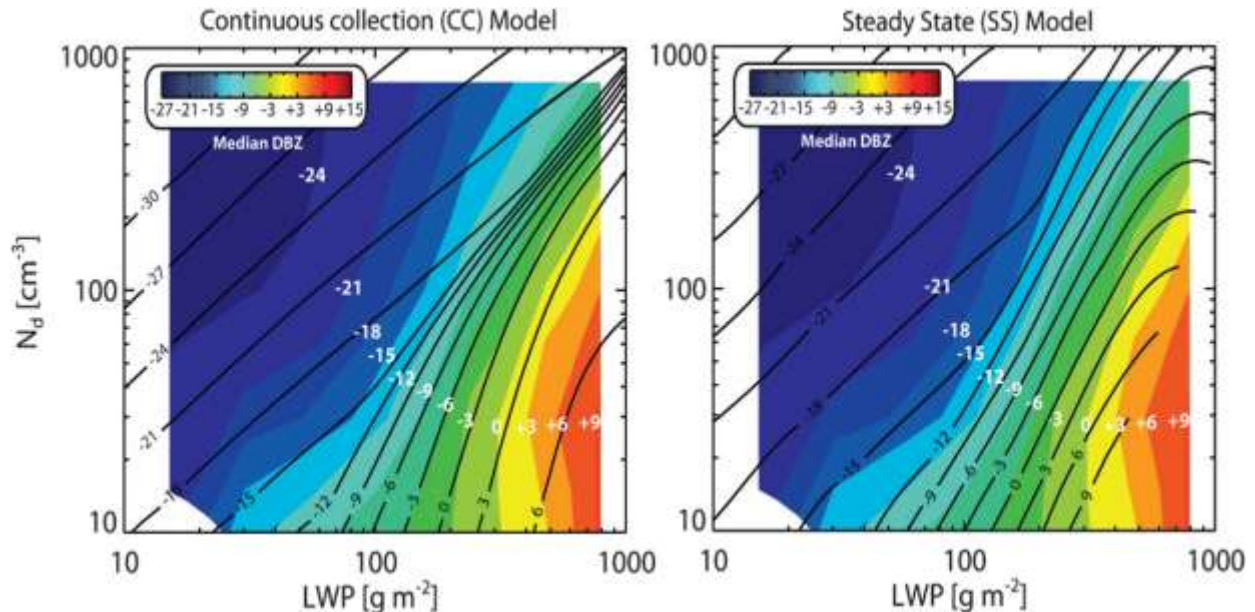


Fig 1. Analysis plots of continuous model cc model and steady state ss model

Figure 1 shows the relationship between cloud LWP and cloud droplet concentration N_d in terms of the cloud-base 94-GHz radar reflectivity (solid black lines) from (a) the CC model and (b) the SS model with the KK auto conversion

overlaid on A-Train data (colours, with white labels). The adiabatic droplet concentration N_{eff} is utilized for the observations. Model inputs are fixed in accordance with section 4c's description as shown in Figure 2 below [16-20].

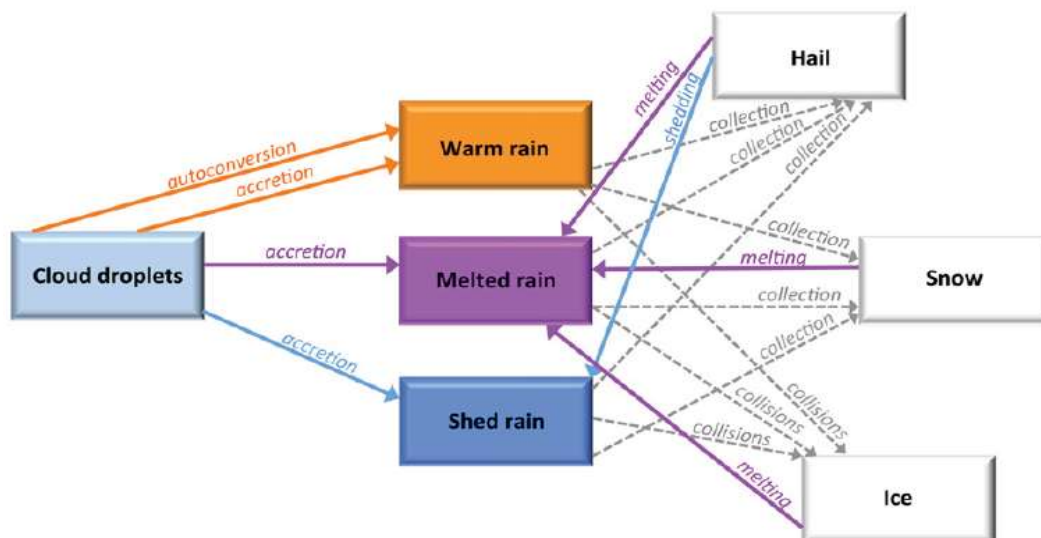


Fig 2. Microphysical Process

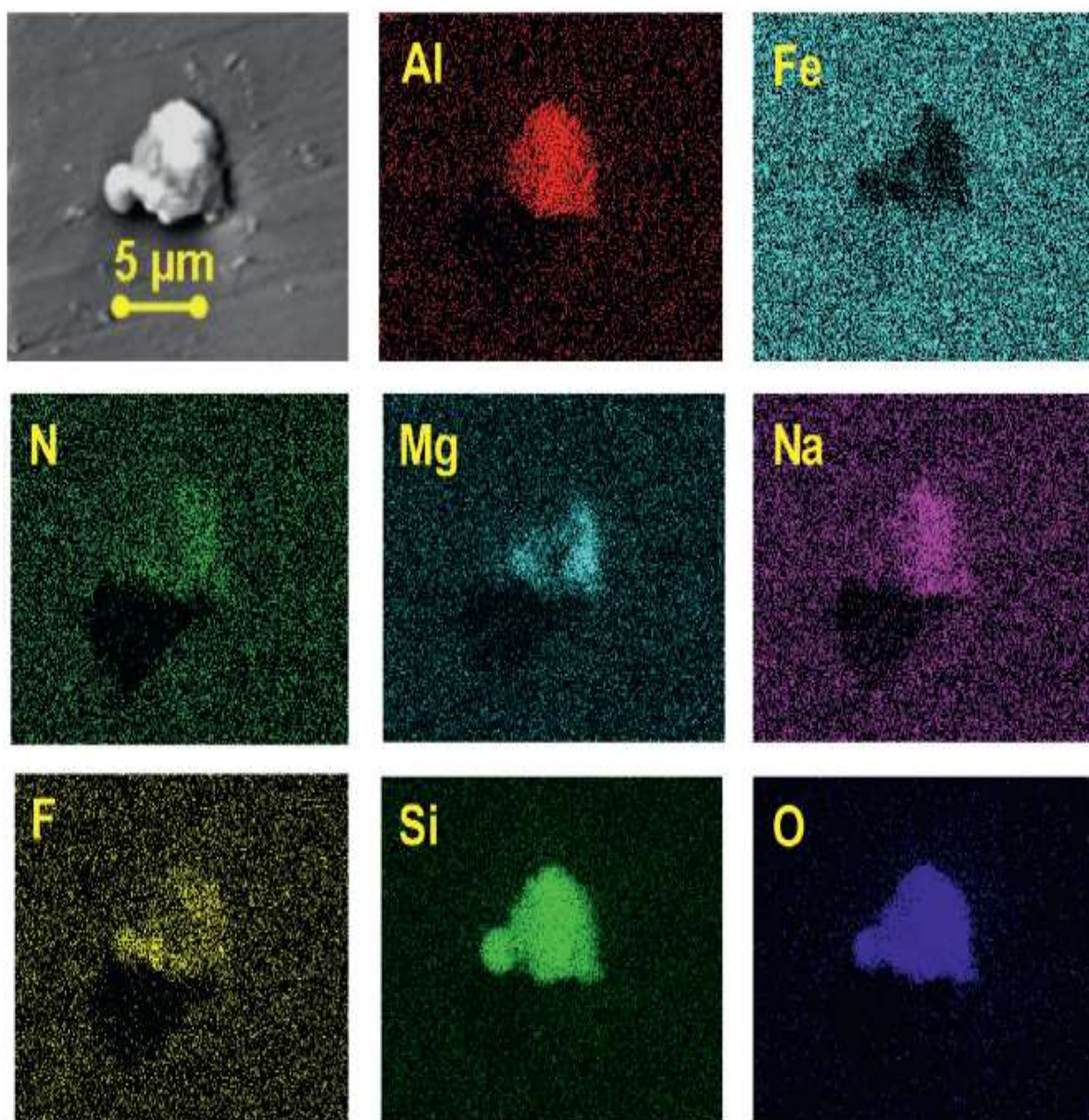


Fig. 3. SEM image (top left) of a single residual particle in a raindrop ($D_r = 2.5$ mm) and its elemental maps

Evaluating the Neutralisation and Acidity Potential

Another technique for determining how well alkaline species neutralise acidic species is the ratio of acidic potential (AP)

to neutralisation potential (NP). The non-sea salts SO_4^{2-} and NO_3^- can be added to determine AP, whereas the non-sea salts Ca^{2+} and NH_4^+ can be added to determine NP.

The concentration of ions ($\mu\text{eq L}^{-1}$), of the samples was:

$\text{Ca}^{2+} > \text{NH}_4^+ > \text{Na}^+ > \text{HCO}_3^- > \text{Mg}^{2+} > \text{SO}_4^{2-} > \text{NO}_3^- > \text{Cl}^- > \text{K}^+ > \text{H}^+$, and $\text{pH} = 5.6$ in VWM.

The number of sample rainwater with its composition is shown in Table 1 and 2 below.

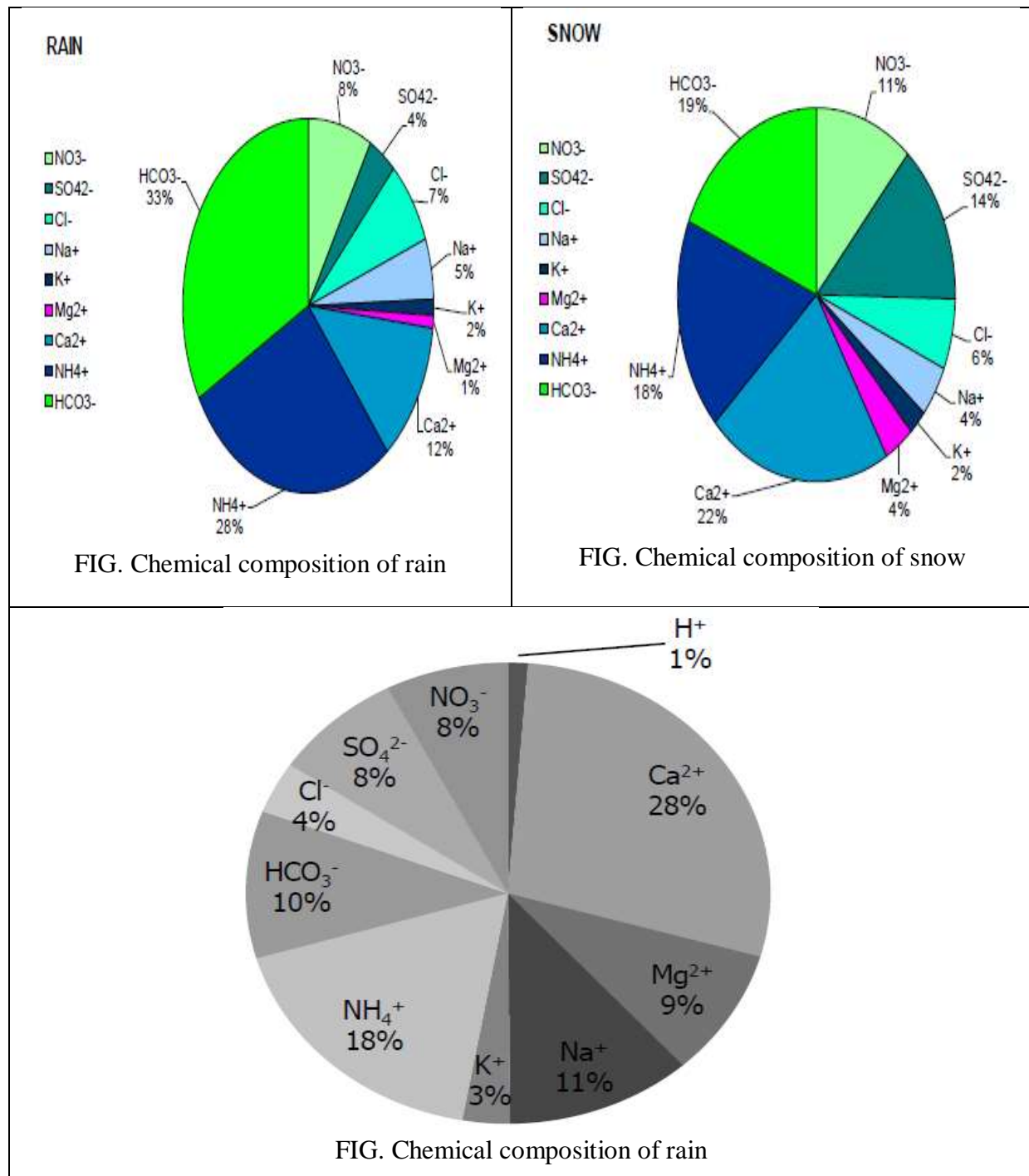


Table 1: Number of sample rainwater with its composition.

n	pH	H ⁺	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺	NH ₄ ⁺	HCO ₃ ⁻	Cl ⁻	SO ₄ ²⁻	NO ₃ ⁻
30	5.62	2.40	54.88	17.40	22.39	5.68	34.36	20.13	7.06	15.54	14.73
49	4.77	16.90	64.10	21.90	54.7	17.20	107.00	—	66.00	93.70	62.90
53	6.60	0.40	31.90	13.80	29.10	16.00	—	8.50	18.30	3.00	25.60
176	6.07	0.85	50.10	10.90	0.98	2.01	20.80	—	2.04	23.70	7.00
530	5.10	6.46	13.30	2.10	3.80	2.00	14.30	—	3.40	6.20	8.20
22	4.97	10.71	7.98	9.00	59.80	3.14	—	—	56.94	9.94	15.18
15	6.23	0.59	114.00	10.10	37.70	8.25	56.70	—	21.20	60.90	21.80
355	6.39	1.02	80.88	23.11	24.35	14.18	31.81	38.42	29.52	40.81	25.17
177	5.30	4.98	22.40	9.28	18.40	6.48	35.30	—	16.10	22.10	3.95
70	5.72	1.90	8.41	3.85	11.10	2.81	28.10	—	6.98	13.20	2.47
20	5.22	6.00	9.20	40.40	142.20	7.10	9.90	—	178.20	34.80	12.00
44	5.39	4.03	21.60	6.60	8.64	9.55	37.10	—	9.29	23.80	20.10
402	***	—	53.40	32.60	97.10	10.90	50.20	119.60	63.10	40.50	15.70
46	4.60	25.0	6.00	3.30	10.90	1.30	24.40	—	10.70	38.10	14.40
156	4.20	63.20	16.20	7.00	36.90	4.20	22.00	—	42.40	70 (1)	27.60

Table 2. Showing rain water composition

CONCLUSION

- The allure of earth and water at a 180° angle as benevolent nature
- The enemy will be at a 90° angle, which is air and fire.
- The creation of salt and water by the reaction of an acid and a base.
- Oceans are typically the source of hydrogen. Water is formed when hydrogen is heated or burned in the presence of oxygen; this process is exothermic.
- Rainwater's pH is 5.7 at 25°C when it is in balance with atmospheric carbon dioxide.
- H₂ and O₂ are produced when water is electrolyzed.
- The water composition of the lentic lotic and limnetic regions differs.

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